CASE NO.

7627

APPLICATION,

TRANSCRIPTS,

SMALL EXHIBITS,

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Case file

October 20, 1986

Anadarko Petroleum Corporation
P.O. Box 2497
Midland, Texas 79702

Attention: Tommy W. Thompson

Re: Injection Pressure Increase
Teas Yates Unit Waterflood
Lea County, New Mexico

Dear Sir:

Reference is made to your request of October 6, 1986, to increase the surface injection pressure on the Teas Yates Unit Well Nos. 1-2, 2-1, 5-3, 8-4, 10-3, and 13-2. This request is based on a step rate test conducted on the No. 1-2 well on September 11, 1986. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

You are therefore authorized to increase your surface injection pressure to 1567 PSIG on the following wells.

Well & Location

Teas Yates Unit No. 1-2
Unit E, Section 18,
T-20 South, R-34 East

Teas Yates Unit No. 2-1
Unit F, Section 13,
T-20 South, R-33 East

Teas Yates Unit No. 5-3
Unit F, Section 14
T-20 South, R-33 East

Teas Yates Unit No. 8-4
Unit L, Section 13,
T-20 South, R-33 East

Teas Yates Unit No. 10-3
Unit G, Section 14,
T-20 South, R-33 East

Teas Yates Unit No. 13-2
Unit M, Section 11,
T-20 South, R-33 East

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or it is endangering any fresh water aquifers.

Sincerely,

R.L. Stamets
Director

xc: OCD-Hobbs
Case File-7677
File WFX-492
D. Mcdonald
D. Catanach

ANADARKO PETROLEUM CORPORATION 1300 INDEPENDENCE PLAZA • P.O. BOX 2497 • MIDLAND, TEXAS 79702 • (915) 682-1666

Anadarko

October 6, 1986

State of New Mexico
Department of Energy and Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Attn: R. L. Staments
Director

Re: Injection Pressure Increase
Teas Yates Unit
Well No's. 1-2, 2-1, 5-3, 8-4, 10-3 & 13-2
Lea County, NM

Dear Sir:

Anadarko Petroleum Corporation, as operator of the Teas Yates Unit Waterflood in Lea County, New Mexico, requests administrative approval to increase the surface injection pressure limitation on all unit wells subject to a pressure limitation from 1300 psig to 1567 psig. The current surface pressure limitation of 1300 psig for well No's. 2-1, 5-3, 8-4 and 13-2 is as authorized by letter amendment to Case No. 7677 (Order No. R-7084) effective June 2, 1983. The current pressure limitations for unit well No's. 1-2 and 10-3 are 1470 psig and 1475 psig respectively, both by letter amendment effective April 24, 1986.

Enclosed please find two copies of a step rate test conducted September 11, 1986 on the Teas Yates Unit No. 1-2. The surface pressure readings indicate a fracture pressure of 1617 psig at a rate of 313 BWIPD. The request for a surface injection pressure limitation of 1567 psig is

based on the 1617 psig fracture pressure less a safety factor of approximately 50 psig. Further testing will be periodically conducted on the Teas Yates Unit in order to substantiate future increased pressure requests as such increases become necessary. Additional test data will be supplied to the Commission along with each future request.

Sincerely,

Tommy W. Thompson
Senior Production Engineer

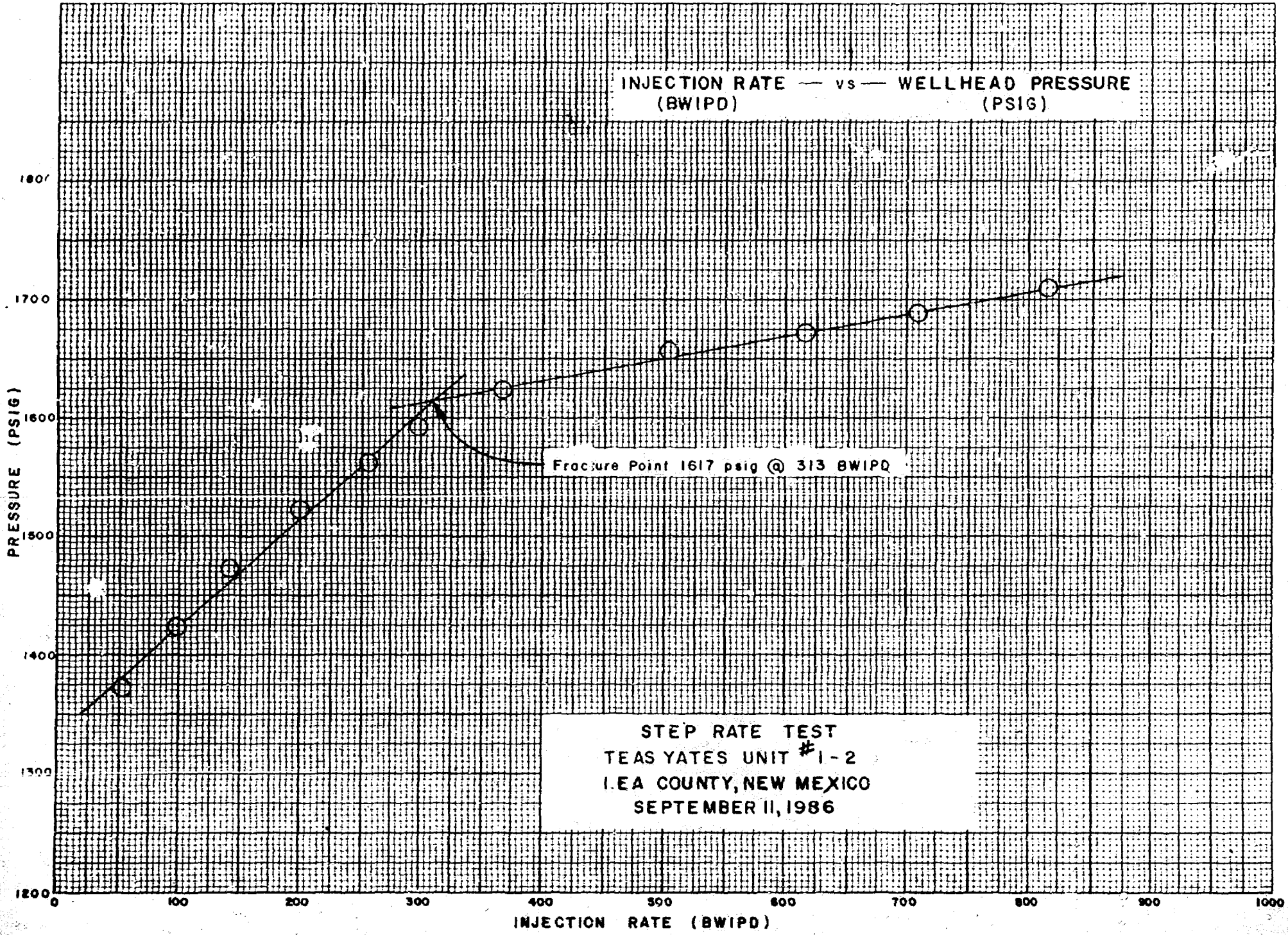
TWT/jma
Enclosures

cc John English
Well File

STEP RATE TEST
TEAS YATES UNIT #1-2
SEPTEMBER 11, 1986

TIME	SURFACE INJECTION PRESSURE (PSIG)	INJECTION RATE (BWPD)
9:10	1340	56
9:15	1360	56
9:20	1370	54
9:25	1380	52
9:30	1385	52
9:35	1395	51
1st Setting Average Pressure =	1372	Rate = 53.5
9:35	1410	111
9:40	1415	103
9:45	1420	99
9:50	1427	96
9:55	1436	92
10:00	1440	93
2nd Setting Average Pressure =	1425	Rate = 99.0
10:00	1450	154
10:05	1460	142
10:10	1470	140
10:15	1480	141
10:20	1485	137
10:25	1495	131
3rd Setting Average Pressure =	1473	Rate = 140.8
10:25	1505	211
10:30	1515	206
10:35	1520	197
10:40	1525	199
10:45	1530	191
10:50	1540	197
4th Setting Average Pressure =	1523	Rate = 200.2
10:50	1545	261
10:55	1555	247
11:00	1560	257
11:05	1570	246
11:10	1570	248
11:15	1580	252
5th Setting Average Pressure =	1563	Rate = 256.3

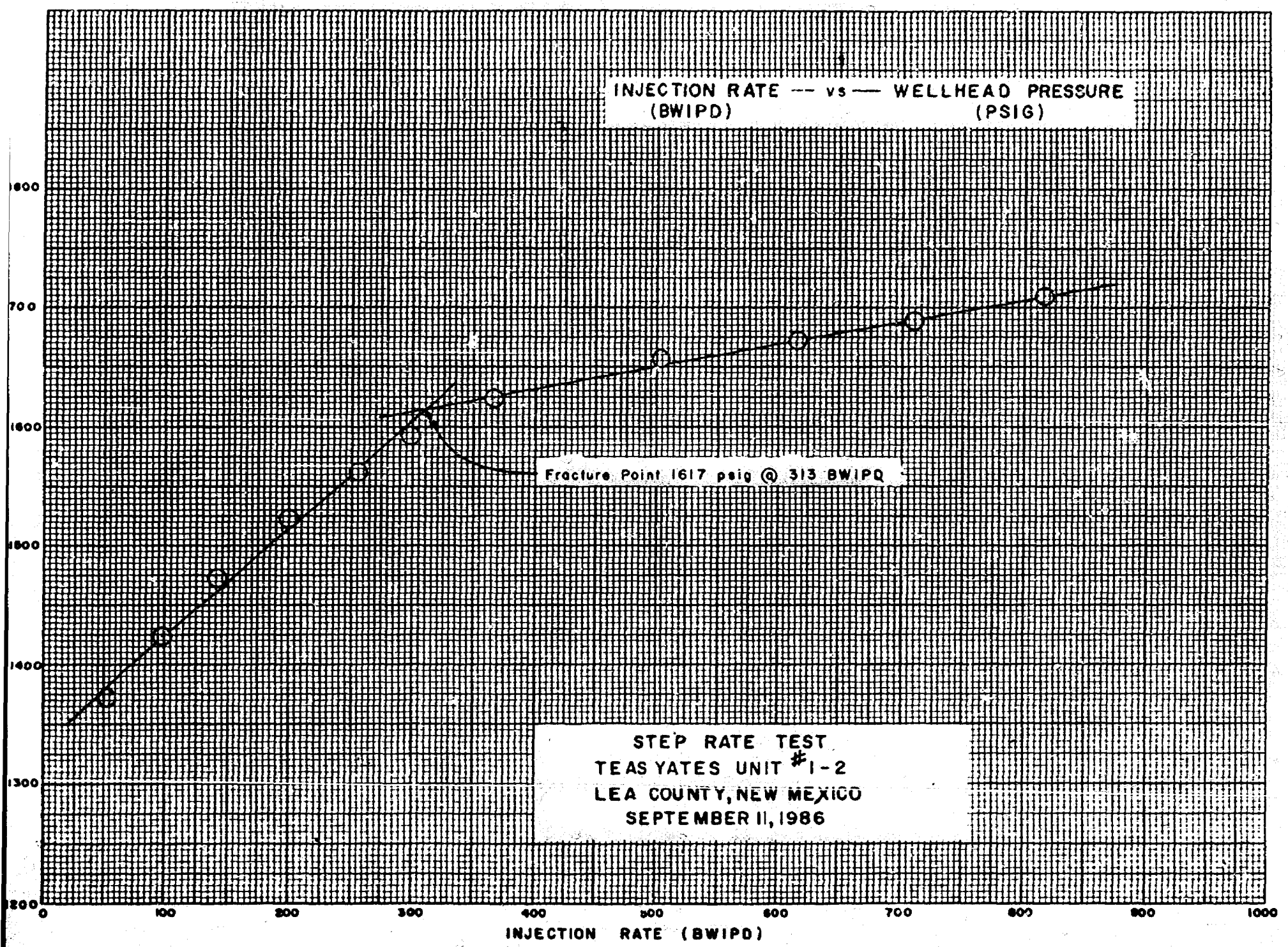
TIME	SURFACE INJECTION PRESSURE (PSIG)	INJECTION RATE (BWPD)
11:15	1585	303
11:20	1590	297
11:25	1590	298
11:30	1595	292
11:35	1600	299
11:40	1600	296
6th Setting Average Pressure =	1593	Rate = 297.5
11:40	1610	372
11:45	1615	385
11:50	1620	385
11:55	1630	363
12:00	1635	356
12:05	1635	346
7th Setting Average Pressure =	1624	Rate = 367.8
12:05	1645	502
12:10	1650	509
12:15	1660	510
12:20	1660	497
12:25	1660	501
12:30	1660	497
8th Setting Average Pressure =	1656	Rate = 502.7
12:30	1665	620
12:35	1665	611
12:40	1670	627
12:45	1670	601
12:50	1675	611
12:55	1680	620
9th Setting Average Pressure =	1671	Rate = 615.0
12:55	1685	731
1:00	1685	711
1:05	1685	695
1:10	1685	705
1:15	1690	711
1:20	1690	701
10th Setting Average Pressure =	1687	Rate = 709.0
1:20	1700	826
1:25	1705	816
1:30	1710	820
1:35	1710	832
1:40	1710	801
1:45	1715	796
11th Setting Average Pressure =	**1708**	**Rate = 815.2**


INJECTION RATE — vs — WELLHEAD PRESSURE
(BWIPD) (PSIG)
Fracture Point 1617 psig @ 313 BWIPD
STEP RATE TEST
TEAS YATES UNIT #1-2
LEA COUNTY, NEW MEXICO
SEPTEMBER 11, 1986
PRESSURE (PSIG)
1800
1700
1600
1500
1400
1300
1200
0
100
200
300
400
500
600
700
800
900
1000
INJECTION RATE (BWIPD)

STEP RATE TEST
TEAS YATES UNIT #1-2
SEPTEMBER 11, 1986

TIME	SURFACE INJECTION PRESSURE (PSIG)	INJECTION RATE (BWPD)
9:10	1340	56
9:15	1360	56
9:20	1370	54
9:25	1380	52
9:30	1385	52
9:35	1395	51
1st Setting Average Pressure =	1372	Rate = 53.5
9:35	1410	111
9:40	1415	103
9:45	1420	99
9:50	1427	96
9:55	1436	92
10:00	1440	93
2nd Setting Average Pressure =	1425	Rate = 99.0
10:00	1450	154
10:05	1460	142
10:10	1470	140
10:15	1480	141
10:20	1485	137
10:25	1495	131
3rd Setting Average Pressure =	1473	Rate = 140.8
10:25	1505	211
10:30	1515	206
10:35	1520	197
10:40	1525	199
10:45	1530	191
10:50	1540	197
4th Setting Average Pressure =	1523	Rate = 200.2
10:50	1545	261
10:55	1555	247
11:00	1560	257
11:05	1570	246
11:10	1570	248
11:15	1580	252
5th Setting Average Pressure =	1563	Rate = 256.3

TIME	SURFACE INJECTION PRESSURE (PSIG)	INJECTION RATE (BWPD)
11:15	1585	303
11:20	1590	297
11:25	1590	298
11:30	1595	292
11:35	1600	299
11:40	1600	296
6th Setting Average Pressure =	1593	Rate = 297.5
11:40	1610	372
11:45	1615	385
11:50	1620	385
11:55	1630	363
12:00	1635	356
12:05	1635	346
7th Setting Average Pressure =	1624	Rate = 367.8
12:05	1645	502
12:10	1650	509
12:15	1660	510
12:20	1660	497
12:25	1660	501
12:30	1660	497
8th Setting Average Pressure =	1656	Rate = 502.7
12:30	1665	620
12:35	1665	611
12:40	1670	627
12:45	1670	601
12:50	1675	611
12:55	1680	620
9th Setting Average Pressure =	1671	Rate = 615.0
12:55	1685	731
1:00	1685	711
1:05	1685	695
1:10	1685	705
1:15	1690	711
1:20	1690	701
10th Setting Average Pressure =	1687	Rate = 709.0
1:20	1700	826
1:25	1705	816
1:30	1710	820
1:35	1710	832
1:40	1710	801
1:45	1715	796
11th Setting Average Pressure =	**1708**	**Rate = 815.2**


INJECTION RATE (BWIPD) -- vs -- WELLHEAD PRESSURE (PSIG)
Fracture Point 1617 psig @ 313 BWIPD
STEP RATE TEST
TEAS YATES UNIT #1-2
LEA COUNTY, NEW MEXICO
SEPTEMBER 11, 1986
1800
1700
1600
1500
1400
1300
1200
0
100
200
300
400
500
600
700
800
900
1000
INJECTION RATE (BWIPD)

50 YEARS

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

1935 - 1985

TONEY ANAYA
GOVERNOR

April 24, 1986

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Anadarko Petroleum Corporation
P. O. Box 2497
Midland, Texas 79702

Attention: Tommy W. Thompson

Re: Injection Pressure Increase
Teas Yates Unit No. 1-2
Section 18, T-20S, R34E,
Lea County, New Mexico

Dear Sir:

Reference is made to your request of April 18, 1986 to increase the surface injection pressure on your Teas Unit No. 1-2. This request is based on a step rate test conducted on the well on April 10, 1986. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

You are therefore authorized to increase your surface injection pressure on the following well:

Well & Location	Maximum Injection Surface Pressure
Teas Yates Unit No. 1-2 Section 18, T-20S, R-34E Lea County, New Mexico	1470 PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or it is endangering any fresh water aquifers.

Sincerely,

R. L. STAMETS
Director

RLS/DRC/et

cc: Oil Conservation Division - Hobbs
Case File 7677
Donna McDonald
D. Catanach

DATE: 4-21-86

COMPANY: Anadarko Petroleum Corporation

ADDRESS: P.O. Box 2497

CITY, STATE, ZIP: Midland, Texas 79702

ATTENTION: Tommy W. Thompson

Re: Injection Pressure Increase
Texas Yates Unit No. 1-2
Section 18 T-20S R-34E
Lea County, New Mexico

Dear Sir:

Reference is made to your request of April 18, 1986 to increase the surface injection pressure on your Texas Yates Unit No. 1-2. This request is based on a step rate test conducted on the well on April 10, 1986. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

You are therefore authorized to increase your surface injection pressure on the following well(s).

Well & Location	Maximum Injection Surface Pressure
Texas Yates Unit No. 1-2 Section 18, T-20S, R-34E, Lea County, New Mexico	420 PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or it is endangering any fresh water aquifers.

cc: OCD - Hobbs Case File - 7677
Donna McDonald
[redacted]
D. Catanach

Sincerely,

R.L. Stamets
Director

ANADARKO PETROLEUM CORPORATION 1300 INDEPENDENCE PLAZA • P.O. BOX 2497 • MIDLAND, TEXAS 79702 • (915) 682-1666

Anadarko

April 18, 1986

State of New Mexico
Department of Energy and Minerals
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Attn: Gilbert Quintana
UIC Director

Re: Injection Pressure Increase
Teas Yates Unit No. 1-2
Unit Letter E, Sec.18-T20S-R34E
Lea County, New Mexico

Dear Sir:

Anadarko Petroleum Corporation, as operator of the Teas Yates Unit waterflood in Lea County, New Mexico, requests administrative approval to increase the surface injection pressure limitation on unit well Tract 1 No. 2 from 1300 psig to 1470 psig. The current surface pressure limitation of 1300 psig is as authorized by letter amendment to Order No. R-7084 effective June 2, 1983.

Enclosed please find two copies of a step rate test conducted April 10, 1986 on the subject well. The surface pressure readings indicate a fracture pressure of 1520 psig at a rate of 230 BWIPD. The request for a surface injection pressure limitation of 1470 psig is based on the 1520 psig fracture pressure less a safety factor of approximately 50 psig. Further testing will be periodically conducted on this wellbore in order to substantiate furture increased pressure requests as such increases become necessary. Additional test data will be supplied to the Commission along with each future request.

Sincerely,

Tommy W. Thompson
Senior Production Engineer

OK. [illegible] 1514 psi

TWT:gks

Enclosures

cc: John English
Well File

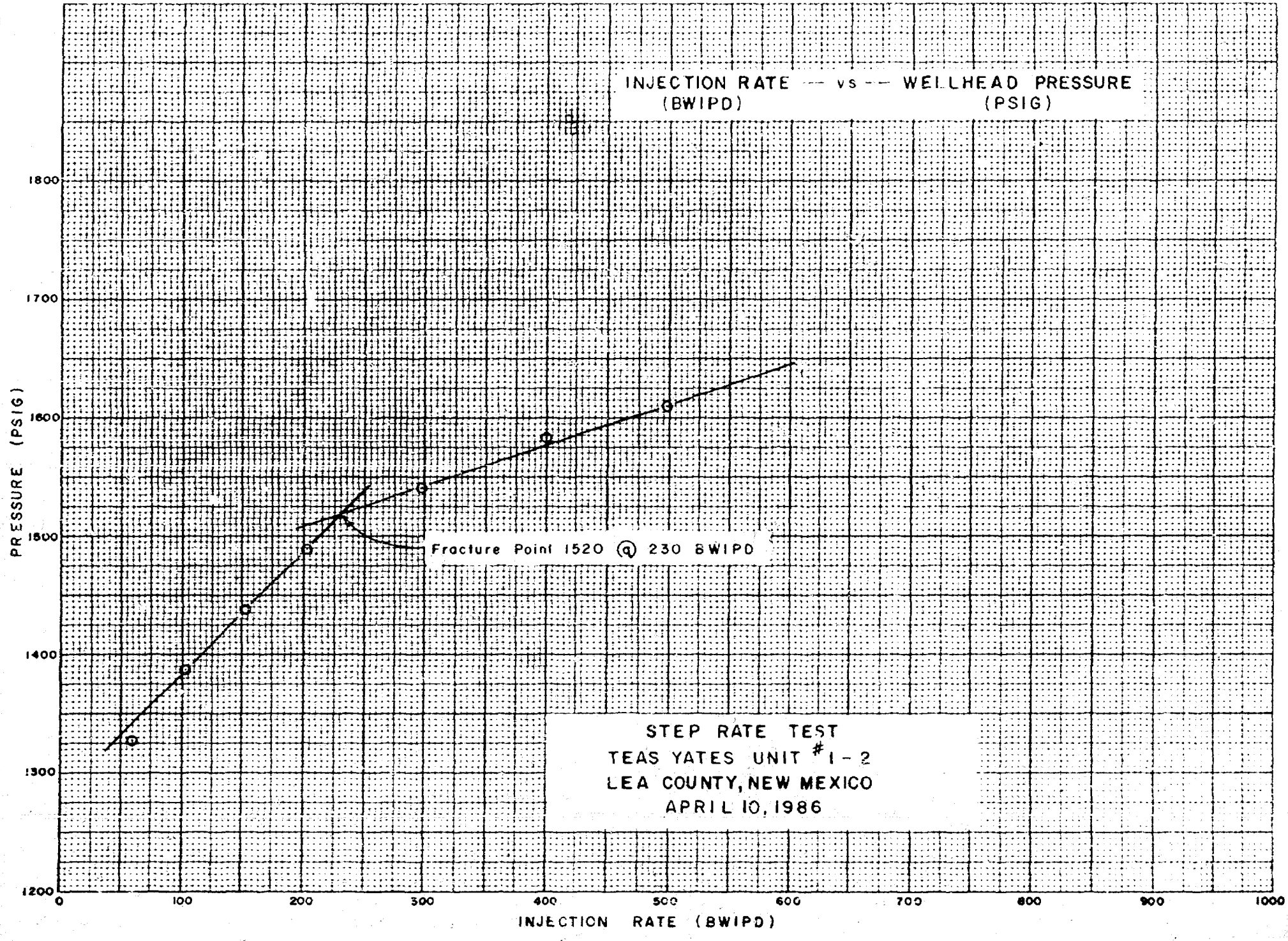
A Panhandle Eastern Company

STEP RATE TEST
TEAS YATES UNIT #1-2
APRIL 10, 1986

TIME	SURFACE INJECTION PRESSURE (PSIG)	INJECTION RATE (BWPD)
9:55	1285	62
10:00	1310	59
10:05	1325	63
10:10	1340	60
10:15	1350	61
10:20	1350	60
1st Setting Average Pressure =	1326.7	Rate = 60.8
10:20	1365	115
10:25	1370	102
10:30	1385	97
10:35	1395	105
10:40	1400	101
10:45	1400	99
2nd Setting Average Pressure =	1385.8	Rate = 103.2
10:45	1420	152
10:50	1420	159
10:55	1435	162
11:00	1445	151
11:05	1445	148
11:10	1460	146
3rd Setting Average Pressure =	1437.5	Rate = 153.0
11:10	1470	209
11:15	1480	210
11:20	1485	206
11:25	1495	201
11:30	1500	192
11:35	1500	189
4th Setting Average Pressure =	1488.3	Rate = 201.2

STEP RATE TEST
TEAS YATES UNIT #1-2
CONT'D

TIME	SURFACE INJECTION PRESSURE (PSIG)	INJECTION RATE (BWPD)
11:35	1510	300
11:40	1530	304
11:45	1540	299
11:50	1545	301
11:55	1550	295
12:00	1560	289
5th Setting Average Pressure =	1539.2	Rate = 298.0
12:00	1565	415
12:05	1580	398
12:10	1580	391
12:15	1585	403
12:20	1595	391
12:25	1600	400
6th Setting Average Pressure =	1584.2	Rate = 399.6
12:25	1600	509
12:30	1600	505
12:35	1610	491
12:40	1620	496
12:45	1620	489
12:50	1620	492
7th Setting Average Pressure =	1611.7	Rate = 497.0


INJECTION RATE (BWIPD) -- vs -- WELLHEAD PRESSURE (PSIG)
PRESSURE (PSIG)
1800
1700
1600
1500
1400
1300
1200
0
100
200
300
400
500
600
700
800
900
1000
INJECTION RATE (BWIPD)
Fracture Point 1520 @ 230 BWIPD
STEP RATE TEST
TEAS YATES UNIT #1-2
LEA COUNTY, NEW MEXICO
APRIL 10, 1986

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

50 YEARS
1935 - 1985

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

April 24, 1986

Anadarko Petroleum Corporation
P. O. Box 2497
Midland, Texas 79702

Attn: Tommy W. Thompson

Re: Injection Pressure Increase
Teas Yates Unit No. 10-3
Section 14, T-20S, R-33E

Dear Sir:

Reference is made to your request of April 18, 1986 to increase the surface injection pressure on your Teas Yates Unit No. 10-3. This request is based on a step rate test conducted on the well on March 5, 1986. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

You are therefore authorized to increase your surface injection pressure on the following well:

Well & Location	Maximum Injection Surface Pressure
Teas Yates Unit No. 10-3 Section 14, T-20S, R33E Lea County, New Mexico	1475PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or it is endangering any fresh water aquifers.

Sincerely,

R. L. STAMETS
Director

RLS/DRC/et

cc: Oil Conservation Division - Hobbs
Donna McDonald
D. Catanach
Case File -7677

DATE: 4-21-86

COMPANY: Anadarko Petroleum Corporation

ADDRESS: P.O. Box 2497

CITY, STATE, ZIP: Midland, Texas 79702

ATTENTION: Tommy W. Thompson

Re: Injection Pressure Increase
Texas Yates Unit No. 10-3
Section 14, T-20S, R-33E
Lea County, New Mexico

Dear Sir:

Reference is made to your request of April 18, 1986 to increase the surface injection pressure on your Texas Yates Unit No. 10-3. This request is based on a step rate test conducted on the well on March 5, 1986. The results of the test have been reviewed by my staff and we feel an increase in injection pressure on this well is justified at this time.

You are therefore authorized to increase your surface injection pressure on the following well(s).

Well & Location	Maximum Injection Surface Pressure
Texas Yates Unit No. 10-3 Section 14, T-20S, R-33E Lea County, New Mexico	475 PSIG

The Division Director may rescind this injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or it is endangering any fresh water aquifers.

cc: OCD-Hobbs
Donna McDonald
D. Catanach
Case File - 7677

Sincerely,

R.L. Stamets
Director

ANADARKO PETROLEUM CORPORATION 1300 INDEPENDENCE PLAZA • P.O. BOX 2497 • MIDLAND, TEXAS 79702 • (915) 682-1666

Anadarko

April 18, 1986

State of New Mexico
Department of Energy and Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attn: Gilbert Quintana
UIC Director

Re: Injection Pressure Increase
Teas Yates Unit No. 10-3
Unit Letter G, Sec. 14, T20S-R33E
Lea County, New Mexico

Dear Sir:

Anadarko Petroleum Corporation, as operator of the Teas Yates Unit waterflood in Lea County, New Mexico, requests administrative approval to increase the surface injection pressure limitation on unit well Tract 10 No. 3 from 1300 psig to 1475 psig. The current surface pressure limitation of 1300 psig is as authorized by letter amendment to Order No. R-7084 effective June 2, 1983.

Enclosed please find two copies of a step rate test conducted March 5, 1986 on the subject well. The surface pressure readings indicate a fracture pressure of 1525 psig at a rate of 275 BWIPD. The request for a surface injection pressure limitation of 1475 psig is based on the 1525 psig fracture pressure less a safety factor of approximately 50 psig. Further testing will be periodically conducted on this wellbore in order to substantiate future increased pressure requests as such increases become necessary. Additional test data will be submitted to the Commission along with each future request.

Sincerely,

OK: Linear Regression comes out to 1515 psi

Tommy W. Thompson
Senior Production Engineer

TWT:gks

Enclosures

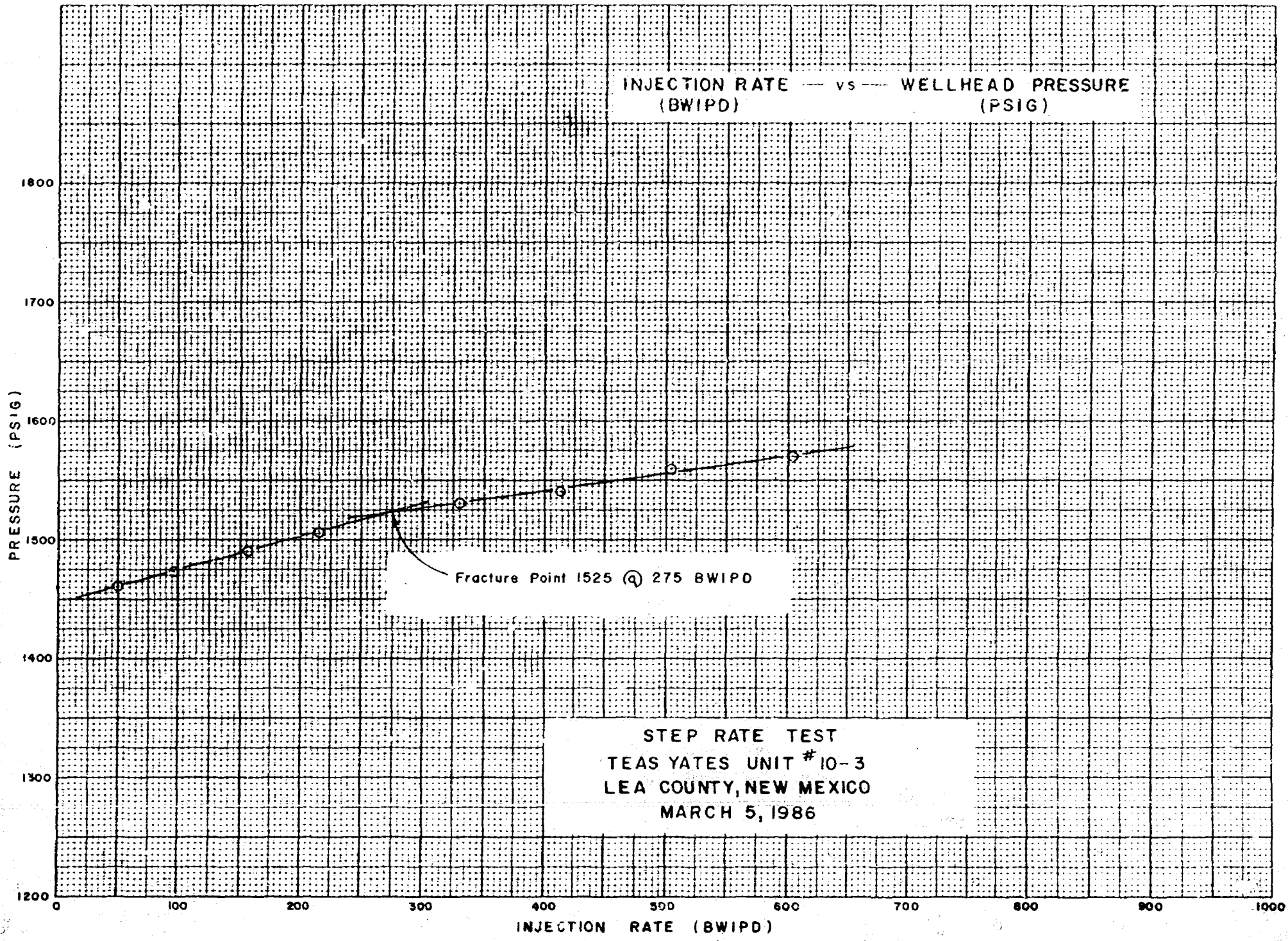
cc: John English
Well File

STEP RATE TEST
TEAS YATES UNIT #10-3
MARCH 5, 1986

TIME	SURFACE INJECTION PRESSURE (PSIG)	INJECTION RATE (BWPD)
9:50	1460	58
9:55	1460	49
10:00	1460	49
10:05	1460	46
10:10	1460	50
1st Setting Average Pressure =	1460	Rate = 50.4
10:10	1470	98
10:15	1470	95
10:20	1470	96
10:25	1475	98
10:30	1480	98
2nd Setting Average Pressure =	1473	Rate = 97.0
10:30	1485	164
10:35	1490	149
10:40	1490	160
10:45	1490	154
10:50	1495	151
3rd Setting Average Pressure =	1490	Rate = 155.6
10:50	1500	224
10:55	1500	198
11:00	1510	215
11:05	1510	225
11:10	1510	218
4th Setting Average Pressure =	1506	Rate = 216.0

STEP RATE TEST
TEAS YATES UNIT #10-3
CONT'D

TIME	SURFACE INJECTION PRESSURE (PSIG)	INJECTION RATE (BWPD)
11:10	1525	345
11:15	1530	325
11:20	1530	335
11:25	1530	321
11:30	1530	319
5th Setting Average Pressure =	1529	Rate = 329.0
11:30	1540	410
11:35	1540	413
11:40	1540	408
11:45	1540	413
11:50	1540	415
6th Setting Average Pressure =	1540	Rate = 411.8
11:50	1555	51[illegible]
11:55	1560	502
12:00	1560	500
12:05	1560	502
12:10	1560	502
7th Setting Average Pressure =	1559	Rate = 504.2
12:10	1570	615
12:15	1570	603
12:20	1570	598
12:25	1570	602
12:30	1570	598
8th Setting Average Pressure =	1570	Rate = 603.2


INJECTION RATE (BWIPD) — vs — WELLHEAD PRESSURE (PSIG)
PRESSURE (PSIG)
1800
1700
1600
1500
1400
1300
1200
0
100
200
300
400
500
600
700
800
900
1000
INJECTION RATE (BWIPD)
Fracture Point 1525 @ 275 BWIPD
STEP RATE TEST
TEAS YATES UNIT # 10-3
LEA COUNTY, NEW MEXICO
MARCH 5, 1986

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

June 2, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Anadarko Production Company
900 Gibralter Savings Center
P. O. Box 2497
Midland, Texas 79702

Attention: Mark E. Fesmire, P.E.
Sr. Reservoir Engineer

Re: Administrative approval request for an increase in the maximum surface pressure limitation on the Teas Yates Unit affected by Order No. R-7084

Dear Mr. Fesmire:

Your letter requesting a "blanket" approval for an increase in the maximum surface injection pressure has been reviewed by my staff. The step-rate test you sent indicated a clear surface fracture pressure of 1349 psi. Based on this data and your statement that the reservoir is fairly homogeneous, a "blanket" pressure increase for all current injection wells on the Teas Yates Unit will be allowed. A standard 50 psi safety margin to compensate for pressure surges or other unforseeable circumstances will be assigned to the maximum pressure granted. Anadarko Production Company is therefore allowed to increase the maximum surface injection pressure for the current Teas Yates Unit wells from 1150 psi to 1300 psi. All other provisions of Order No. R-7084 remain in effect.

Should you have any questions concerning this matter, please forward them to Gilbert Quintana at 827-5807.

Sincerely,

JOE D. RAMEY,
Division Director

cc: Gilbert Quintana
Case File No. 7677
Hobbs District Office

ANADARKO PRODUCTION COMPANY 900 GIBRALTAR SAVINGS CENTER • P. O. BOX 2497 • MIDLAND, TEXAS 79702

Anadarko

April 27, 1983

State of New Mexico
Department of Energy & Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501
Attn: Joe D. Ramey

Dear Sir:

Anadarko Production Company, as Operator of the Teas Yates Unit, located in Sections 10,11,13,14 & 15, T20S, R33E, and Section 18, T20S, R34E, NMPM, Lea County, New Mexico requests administrative approval to increase the surface injection pressure on all unit injection wells subject to a pressure limitation from 1150 psig to 1350 psig. The 1150 psig current pressure limitation is per paragraph 5, NMOCD Order No. R-7084 dated September 30, 1982 and rendered in Case No.7677.

Enclosed please find 2 copies of a step rate test conducted 4-14-83 on Teas Yates Unit WIW # 10-3. The surface pressure readings indicate a fracture pressure of 1346 psig at a rate of 240 BWIPD. The mid-perf pressure data indicates a down-hole fracture pressure of 2724 psig at a rate of 235 BWIPD. The request for a surface injection pressure limitation of 1350 psig is based on this step rate test.

Sincerely,

Mark E. Fesmire P.E.
Senior Reservoir Engineer

MEF:gks

cc: Mr. Jerry Sexton
NMOCD Hobbs

John English
APC Eunice

STEP RATE TEST TEAS YATES UNIT 10-3

April 14, 1983

	RATE BWIPD	SURFACE PRESSURE PSIG	MID PERF PRESSURE PSIA
	83	1105	2519.2
	114	1175	2588.2
1st	160	1235	2652.2
Line	213	1295	2675.2
	234	1340	2717.2
	288	1350	2725.5
	320	1360	2735.2
	376	1370	2745.0
2nd	455	1380	2756.5
Line	540	1395	2771.2
	596	1405	2775.2
	665	1415	2780.2
	720	1420	2786.2
	785	1430	2794.5

Least Squares Analysis: Rate = a + b (Pressure)

1st Line: Surface

Rate = -673.4914 + .6783 (Pressure) R^2 = .9863

2nd Line: Surface

Rate = -8275.7087 + 6.3255 (Pressure) R^2 = .9935

Simultaneous Solution Point:
Rate = 239.6310 BWIPD Pressure = 1346.1925 psig

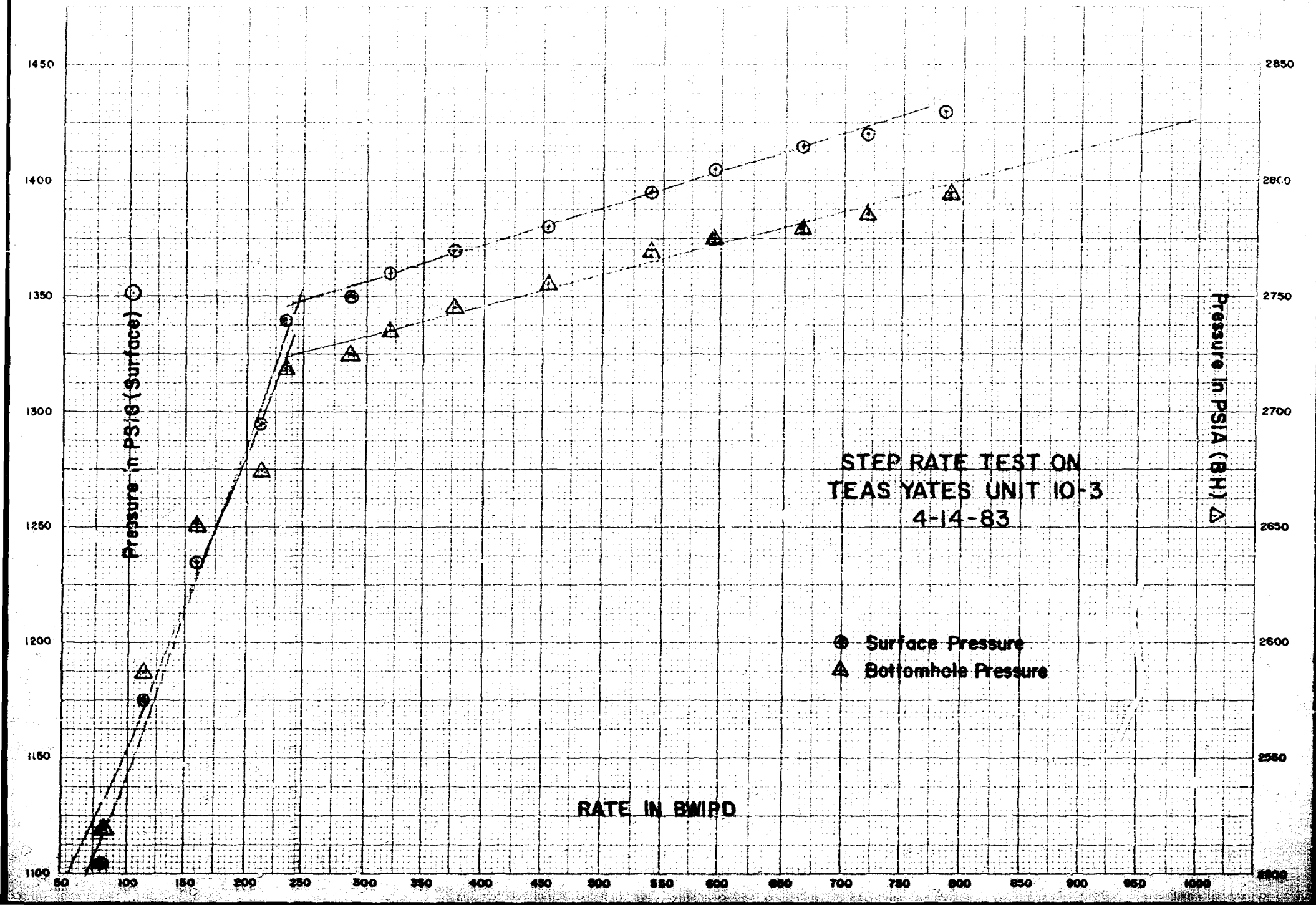
1st Line: Bottom Hole

Rate = -1940.3587 + .7988 (Pressure) R^2 = .9443

2nd Line: Bottom Hole

Rate = -19851.7156 + 7.3749 (Pressure) R^2 = .9756

Simultaneous Solution Point:
Rate = 235.3369 Pressure = 2723.7051 psia

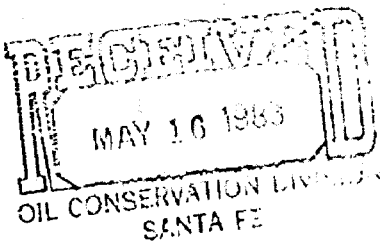

Pressure in PSIG (Surface)
Pressure in PSIA (B.H.) △
1450
1400
1350
1300
1250
1200
1150
1100
2850
2800
2750
2700
2650
2600
2550
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
STEP RATE TEST ON
TEAS YATES UNIT 10-3
4-14-83
Surface Pressure
Bottomhole Pressure
RATE IN BWPD

ANADARKO PRODUCTION COMPANY 900 GIBRALTAR SAVINGS CENTER • P. O. BOX 2497 • MIDLAND, TEXAS 79702

Anadarko

May 12, 1983

State of New Mexico
Department of Energy & Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501
Attn: Gilbert Quintana



Dear Gilbert:

Attached please find two copies of the step rate test that we discussed in our phone conversation of 5-12-83. Also attached is a copy of the original letter to Mr. Ramey.

I appreciate the extra effort expended by you in helping expedite this matter.

Sincerely,

Mark E. Fesmire P.E.
Sr. Reservoir Engineer

MEF:gks

ANADARKO PRODUCTION COMPANY 900 GIBRALTAR SAVINGS CENTER • P.O. BOX 2497 • MIDLAND, TEXAS 79702

April 27, 1983

State of New Mexico
Department of Energy & Minerals
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501
Attn: Joe D. Ramey

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Mark E. Fesmire P.E.
Senior Reservoir Engineer

MEF:gks

cc: Mr. Jerry Sexton
NMOCD Hobbs

John English
APC Eunice

STEP RATE TEST TEAS YATES UNIT 10-3

April 14, 1983

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Rate = -19851.7156 + 7.3749 (Pressure) R^2 = .9756

Simultaneous Solution Point:
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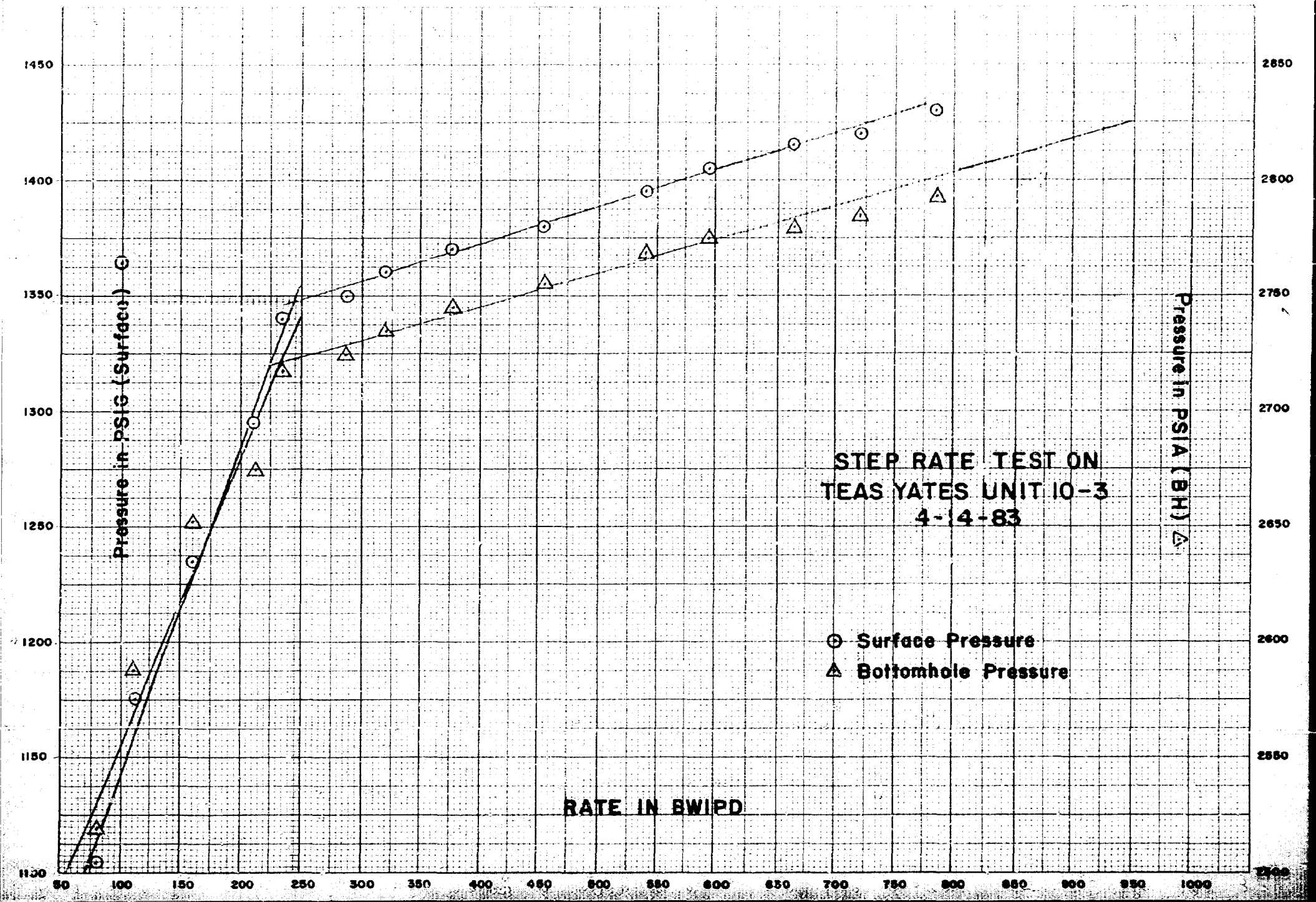

Pressure in PSIG (Surface) ⊙
Pressure in PSIA (BH) △
STEP RATE TEST ON
TEAS YATES UNIT 10-3
4-14-83
⊙ Surface Pressure
△ Bottomhole Pressure
RATE IN BWIPD
1450
1400
1350
1300
1250
1200
1150
1100
2850
2800
2750
2700
2650
2600
2550
2500
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000

Mark ~~Fesmyer~~ Fesmire
Anadarko 915-682-1666

This step-rate test was used to allow an injection pressure increase for the subject well (Teas Yates Unit 10-3) in a hearing (1982). Anadarko is going to apply for a blanket injection limit for the unit using additional steprate data.

Wait on additional data!

JPQ

ANADARKO PRODUCTION COMPANY 900 GIBRALTAR SAVINGS CENTER • P. O. BOX 2497 • MIDLAND, TEXAS 79702

Sent D to Santa Fe

Anadarko

September 13, 1983

New Mexico Oil Conservation Division
District 1
Box 1980
Hobbs, New Mexico 88240

RECEIVED
SEP 22 1983
OIL CONSERVATION DIVISION
SANTA FE

Re: NMOCD Case File 7677

Dear Sirs:

Attached, for your information, is the results of a step rate test run on Anadarko's Teas Yates Unit 10-3 Water Injection Well on 8-31-83.

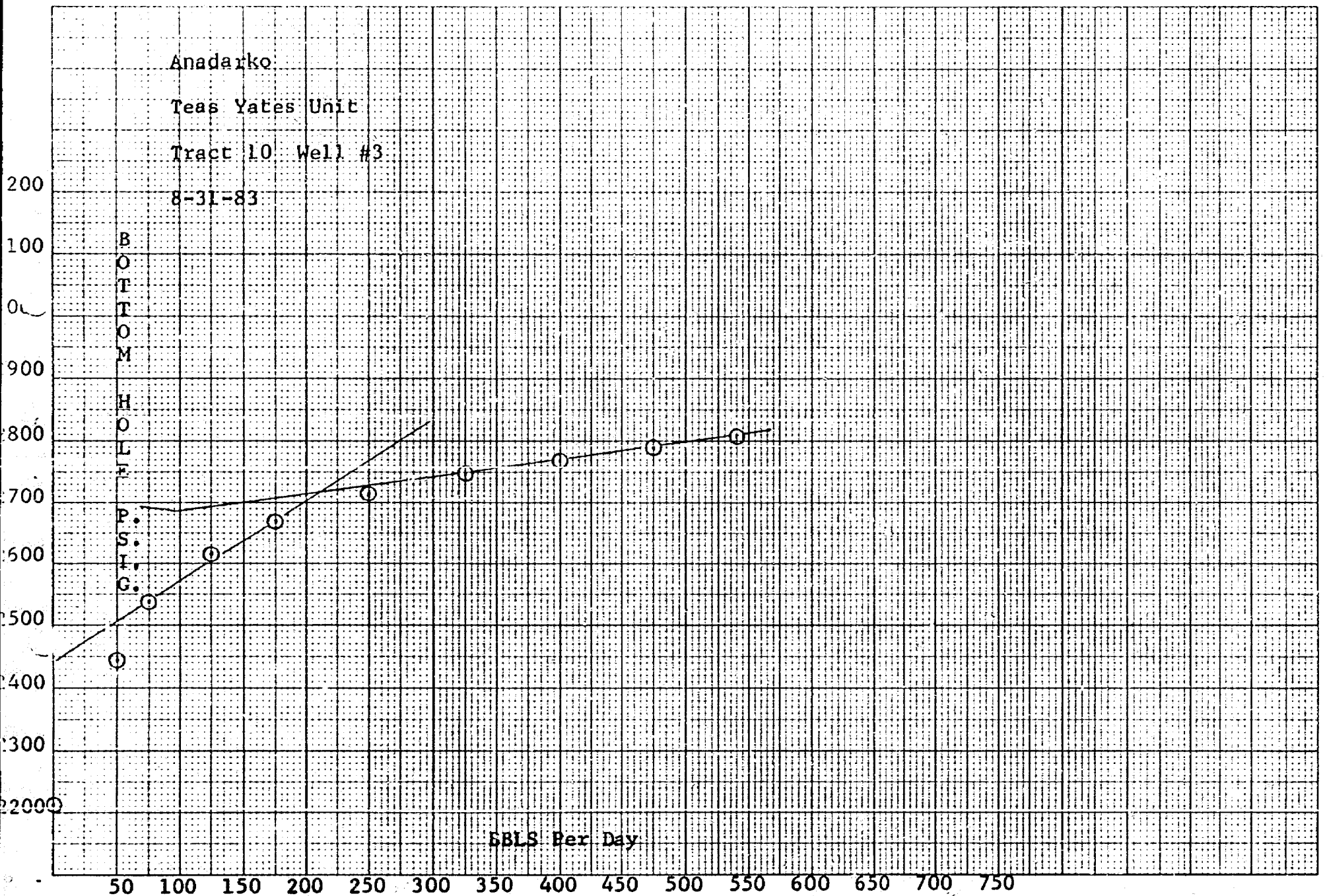
Sincerely,

Mark E. Fesmire

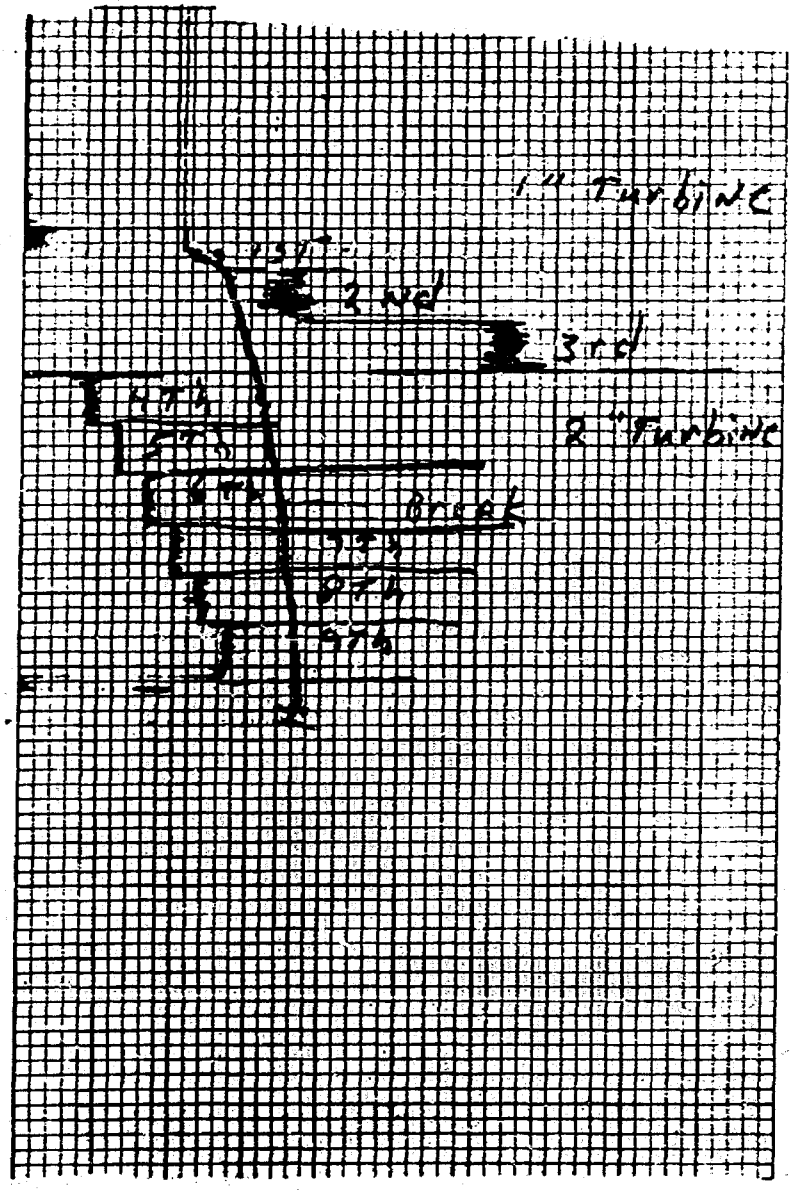
Mark E. Fesmire P.E.
Sr. Reservoir Engineer

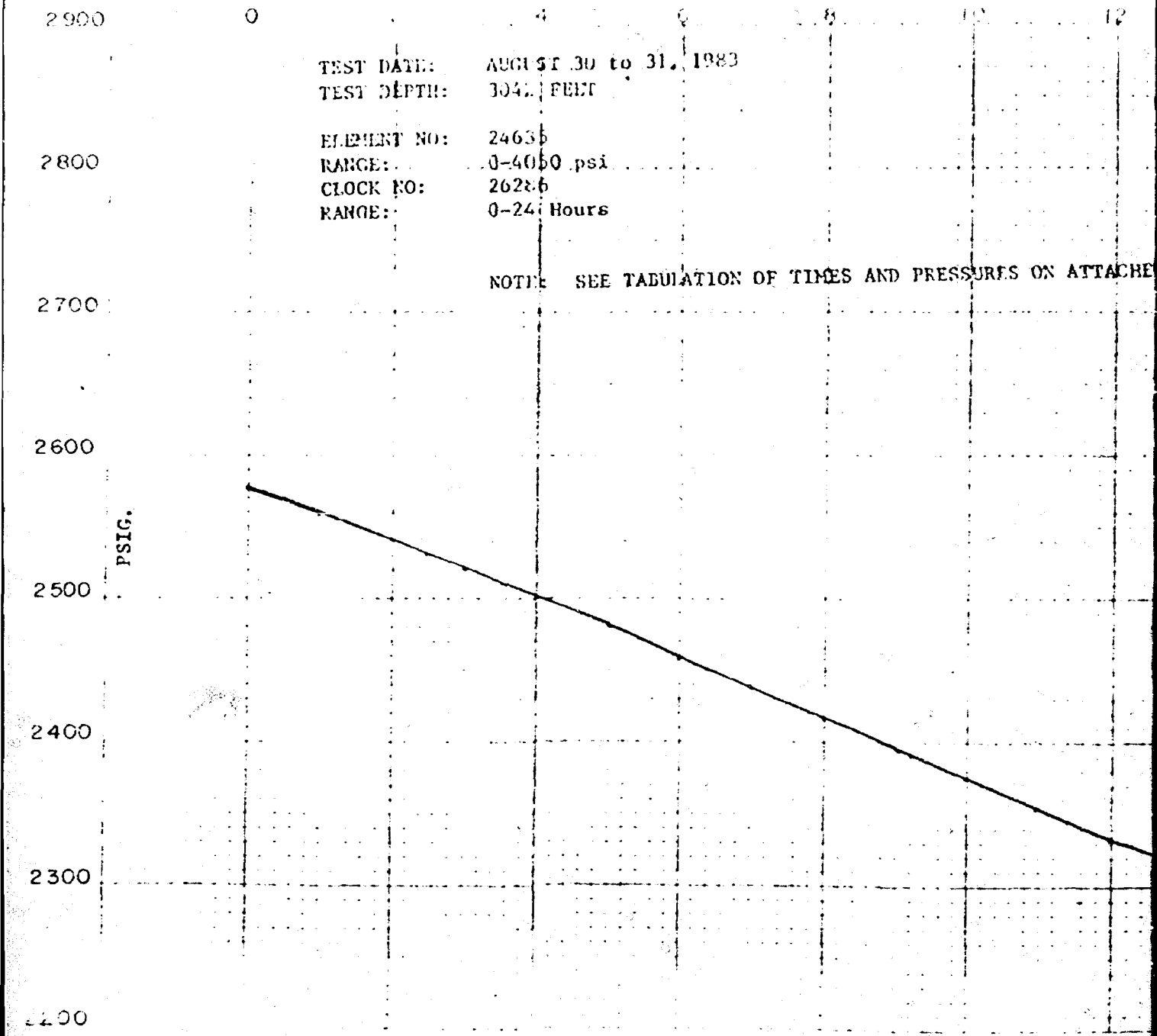
MEF:gks

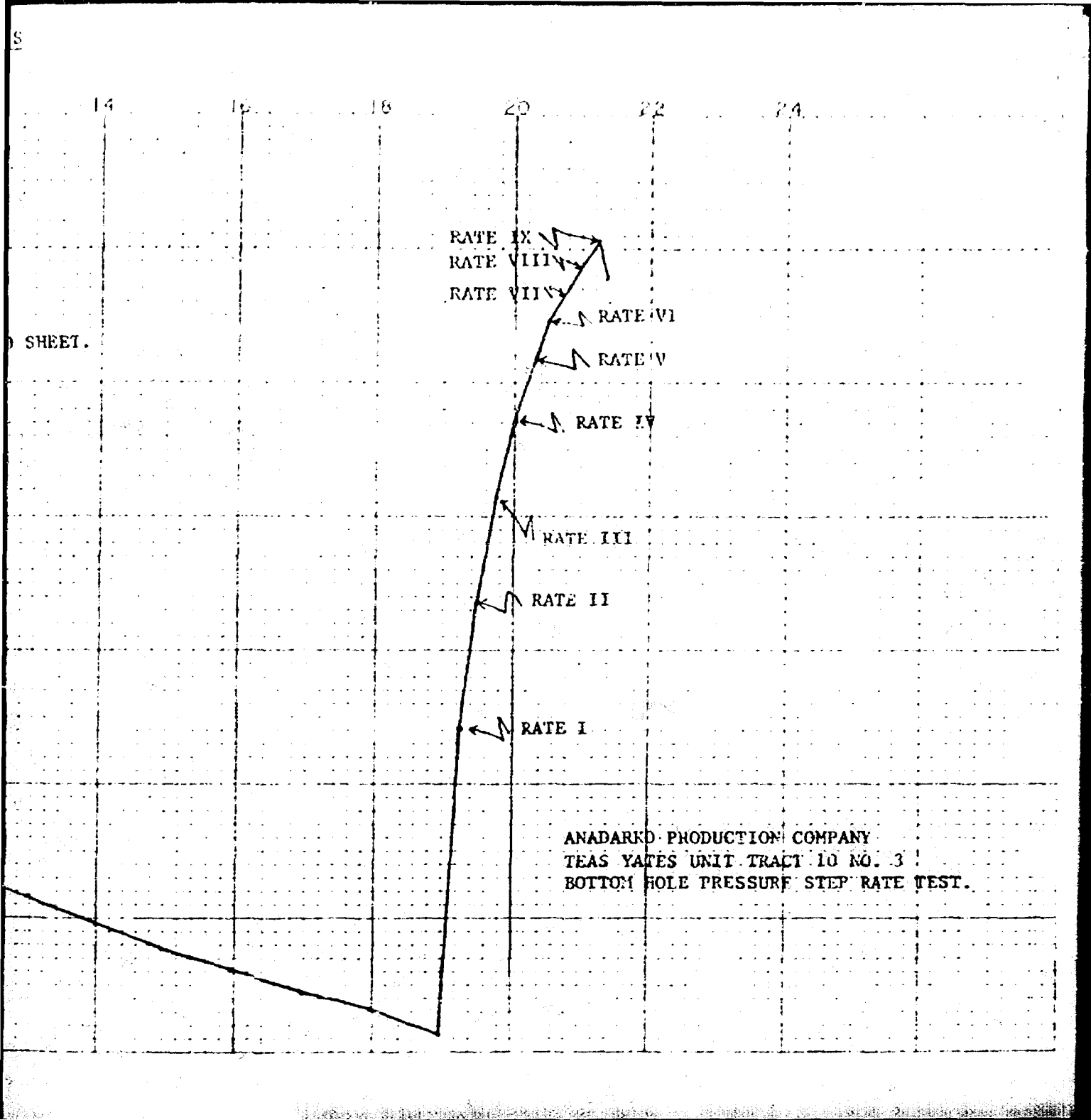
10/14/83
This new step rate test is not an adequate change in pressure to justify a new pressure limit.
(Fax)
GPQ



Anadarko
Teas Yates Unit
Tract 10 Well #3
8-31-83




2900
2800
2700
2600
2500
2400
2300
2200
0
4
6
8
10
12
PSIG.
TEST DATE: AUGUST 30 to 31, 1983
TEST DEPTH: 3042 FEET
ELEMENT NO: 24635
RANGE: 0-4000 psi
CLOCK NO: 26286
RANGE: 0-24 Hours
NOTE: SEE TABULATION OF TIMES AND PRESSURES ON ATTACHE


14
16
18
20
22
24
RATE IX
RATE VIII
RATE VII
RATE VI
RATE V
RATE IV
RATE III
RATE II
RATE I
SHEET.
ANADARKO PRODUCTION COMPANY
TEAS YATES UNIT TRACT 10 NO. 3
BOTTOM HOLE PRESSURE STEP RATE TEST.

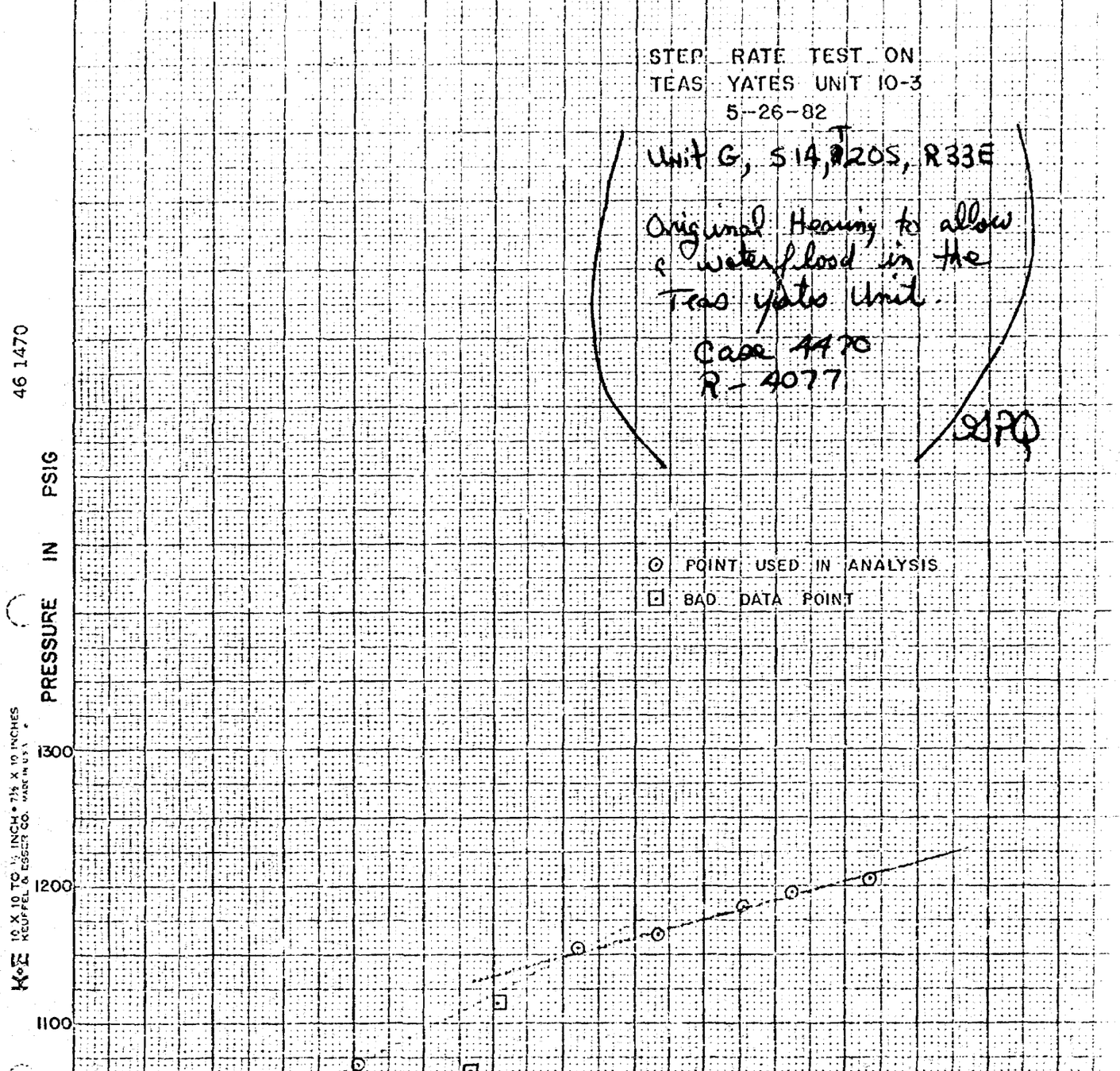
ANADARKO PRODUCTION COMPANY
TEAS YATES UNIT TRACT 10 No. 3
BOTTOM HOLE PRESSURE STEP RATE TEST
TABULATION OF TIMES AND PRESSURES

TEST CONDUCTED BY:
JOHN WEST ENGINEERING COMPANY

TEST DATE: AUGUST 30 to 31, 1983
TEST DEPTH: 3042 Feet
ELEMENT NO: 24635 (0-4050 psi)
OPERATOR: T.B.

DATE	TIME	CUM HRS./MIN.	PSIG @ 3042 FEET
8-30-83	12:45 P.M.	00 Hrs. 00 Min.	2578 gauge reached 3042'
	1:00 P.M.	00 15	2576
	1:15 P.M.	00 30	2570
	1:30 P.M.	00 45	2564
	1:45 P.M.	01 00	2559
	2:15 P.M.	01 30	2551
	2:45 P.M.	02 00	2541
	3:15 P.M.	02 30	2531
	3:45 P.M.	03 00	2520
	4:45 P.M.	04 00	2502
	5:45 P.M.	05 00	2480
	6:45 P.M.	06 00	2459
	7:45 P.M.	07 00	2439
	8:45 P.M.	08 00	2417
	9:45 P.M.	09 00	2396
	10:45 P.M.	10 00	2376
	11:45 P.M.	11 00	2356
8-30-83	12:45 P.M.	12 00	2333
8-31-83	1:45 A.M.	13 00	2317
8-31-83	2:45 A.M.	14 00	2297
	3:45 A.M.	15 00	2278
	4:45 A.M.	16 00	2262
	5:45 A.M.	17 00	2246
	6:45 A.M.	18 00	2232
	7:40 A.M.	18 55	2213
	7:45 A.M.	19 00	2213 Started Injection
	8:00 A.M.	19 15	2443 End Rate I
	8:15 A.M.	19 30	2537 End Rate II
	8:30 A.M.	19 45	2615 End Rate III
	8:45 A.M.	20 00	2670 End Rate IV
	9:00 A.M.	20 15	2715 End Rate V
	9:15 A.M.	20 30	2748 End Rate VI
	9:30 A.M.	20 45	2768 End Rate VII
	9:45 A.M.	21 00	2789 End Rate VIII
	10:00 A.M.	21 15	2807 End Rate IX
8-31-83	10:05 A.M.	21 20	2777 gauge off bottom, end of Test.

Anadarko



46 1470

KE 10 X 10 TO ½ INCH • 7½ X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

The following data points were obtained in a step rate test that was run on 5-26-82 and was witnessed by Mr. Edd See with the Oil Conservation Division.

PT. #	FINAL SURFACE PRESSURE (psig)	FINAL RATE (BWIPD)
1	960	190
2	1010	270
3	1035	368
4	1050	421
5	1060	467
6	1070	508
7	1055	576
8	1065	665
9	1115	705
10	1155	823
11	1165	934
12	1185	1054
13	1195	1122
14	1205	1234

The recorded rates and pressures are after a 45 minute stabilization time.

Points 1, 7, 8 and 9 appear to be bad data.

Using points 2, 3, 4, 5, 6 and 10 in a least squares analysis, the equation for the best fit line is:

$$BWIPD = -3577.9179 + 3.8126 \text{ (Pressure)} \quad r^2 = .9995$$

Using points 11, 12, 13 and 14 in a least squares analysis, the equation for the best fit line is:

$$BWIPD = -7545.4286 + 7.2686 \text{ (Pressure)} \quad r^2 = .9768$$

Equating the two lines and solving for the intersection will give the surface fracture pressure:

$$-3577.9179 + 3.8126 \text{ (P)} = -7545.4286 + 7.2686 \text{ (P)}$$

$$P = 1148.01 \text{ psig}$$

Calculated Fracture Pressure = 1148 psig

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

15 September 1982

EXAMINER HEARING

IN THE MATTER OF:

Application of Anadarko Production Company for a waterflood expansion, Lea County, New Mexico. CASE 7677

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: W. Perry Pearce, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: W. Thomas Kellahin, Esq.
KELLAHIN & KELLAHIN
117 No. Guadalupe
Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

MR. NUTTER: Call next Case Number 7677.

MR. PEARCE: That is on the application of Anadarko Production Company for a waterflood expansion, Lea County, New Mexico.

MR. KELLAHIN: I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Anadarko and I have one witness.

(Witness sworn.)

MARK FESMIRE

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Would you please state your name and occupation for the record?

A. My name is Mark Fesmier, F-E-S-M-I-R-E. I'm a Senior Production Engineer for Anadarko Production Company in Midland, Texas.

Q. Mr. Fesmire, have you previously testified before the Division?

A. No, sir.

Q. Would you tell Mr. Nutter when and where you obtained your degree?

A. I have a degree in geological engineering from New Mexico State University.

I have a degree in civil engineering from the same institution, both in May of 1978.

Q. What are your responsibilities for Anadarko Production Company?

A. Currently I'm responsible for the Teas Yates Waterflood located in Lea County, New Mexico.

Q. And have you made a study of and prepared certain exhibits will regards to this application, Mr. Fesmire?

A. Yes, sir, I have.

MR. KELLAHIN: We tender Mr. Fesmire as an expert petroleum engineer, Mr. Nutter.

MR. NUTTER: Mr. Fesmire is qualified.

Q. Mr. Fesmire, let me direct your attention to what I have marked and submitted to the Examiner as Exhibit Number One, and have you first of all indicate for us on the exhibit how the Teas Yates Unit is defined.

A. The Teas Yates Unit is a 1200-acre unit located in Sections 11, 10, 15, 14, 13, Township 20 South, Range 33 East, and 40 acres in Township 20 South, Range 34

East.

Q. What are you seeking to accomplish by this application, Mr. Fesmire?

A. With this application we intend to expand the waterflood within the boundaries of the unit to an approximate 20 acre spacing by the addition of -- by drilling three new injection wells and converting two producing wells to injection.

Q. Can you reference us to the prior Division order that approved the waterflood project?

A. Order R-4077.

Q. All right, sir, and how have you identified the three new injection wells and the two producing wells to be converted to injection on your exhibit?

A. Currently the structure of the unit dictates a need for injection along the crest of the structure within the -- within the Yates Sand.

Q. Would you identify for us for the record the three new injection wells?

A. The three new injection wells are going to be Well 1-2, located 1980 foot from the north line and 10 foot from the west line of Section 18, Township 20 South, Range 34 East; Well No. 8-4, located 2250 feet from the south line and 975 feet from the west line of Section 13, Township

20 South, Range 33 East. The last injection well to be drilled is the Teas Yates Unit No. 13-2, which is 10 foot from the south line and 660 foot from the west line of Section 11, Township 20 South, Range 33 East.

The two wells to be converted are Teas Yates Unit 5-3, which is 1980 foot from the north line and 1650 foot from the west line of Section 14, Township 20 South, Range 33 East, and 2-1, which is 1980 foot from the north line and 1980 foot from the west line of Section 12, Township 20 South, Range 33 East.

MR. NUTTER: Section 13.

A. Yes, sir, Section 13.

Q. All right, sir, let me show you what we've marked as Exhibit Number Two, and would you identify that exhibit for us, please?

A. Yes, sir, that's a structure map done on the top of the Yates pay.

Q. Was the structure map used by you in making a decision about where to locate your injection wells?

A. Yes, sir. When this flood was originated, of the ten injectors, they were all around the periphery of the structure. Of the ten original injectors, five have been dry holes or depleted when converted, had very low recoveries.

What we intend to do with the new injectors

and with the conversions is come in and increase the -- the area injected into.

Q. Do you have a recommendation to the Examiner as to a pressure limitation on the surface for the injection wells?

A. Yes, sir, we drilled Teas Yates Unit Well No. 10-3 as an injector late last year and early this year, and we tested it. We ran a step rate test on it.

The step rate test indicated a surface fracture pressure of 1150 pounds. That's the limitation.

Q. All right, sir, is that a pressure in excess of the .2 per foot of depth, the guideline the Division has set forth?

A. Yes, sir, it is.

Q. All right, let me show you then Exhibit Number Three and ask you if that is the step rate test to which you've referred? Is that the step rate test, Mr. --

A. Yes, sir, it is. There's a tabulation -- the second page is a tabulation; the front page is a graphical representation.

Q. All right, sir, when was that test run, Mr. Fesmire?

A. May 26th, 1982. It was witnessed by Mr. Ed See with the Oil Conservation Division.

Q. All right. Would you show us where, on your exhibit Number One, where the well is located that the step rate test was conducted on?

A. The well is located in the south -- as you are -- it's 10-3 in Section 10. It's about in the middle of the unit.

Q. In your opinion, Mr. Fesmire, is the step rate test results for the 10-3 Well a fair representation, in your opinion, of the pressure limitation that ought to be set forth for all the injection wells in the project?

A. At the present time, yes, sir.

Q. Now what is your current injection pressure on the existing injection wells, Mr. Fesmire?

A. Currently we are injecting between 1600 and 1800 pounds in all the injection wells in the unit.

Q. Mr. Fesmire, I show you what I've marked as Anadarko Exhibit Four and ask you to identify that.

A. This is a tabulation of the casing and drilling programs for all wells within a one-half mile radius of each new injection well, broken down by those injection wells.

Q. All right, sir, have you also tabulated and attached wellbore schematics for any plugged and abandoned wells within the half mile radius?

A. Yes, sir. Within that packet is also a schematic for each and every plugged and abandoned well within one-half mile of that new injection well broken down by injection well, the new injection wells.

Also included is a schematic of the proposed completion of that injection well.

Q. Mr. Fesmire, have you examined the available geological engineering data to determine whether there are any open faults or other hydrologic connections between the injection formation and any underground sources of drinking water?

A. Yes, sir. We find no indication of that communication.

Q. Where is the nearest fresh water well in the area?

A. The nearest fresh water well in the area belongs to the Berry Ranch, approximately 5038 feet southeast of our injection well 10-3, located in Section 24. The well has a total depth of 800 foot; pumps from approximately 600 foot; has a standing water level of 400 foot.

Q. What is the source of the injection water that's injected in this project?

A. The injection water we're using is Seven Rivers Reef water from our water supply well No. 1, located

in Tract 5 and make-up water from produced water from the unit.

Q. Mr. Fesmire, I show you what I've marked as Applicant Exhibit Number Five and ask you to identify it.

A. That's a water analysis we had run on that Berry Ranch well. It indicates no contamination from the unit.

Q. All right, sir, I'll show you what I've marked as Exhibit Number Seven, Mr. Fesmire, and ask you to identify it.

A. That's a production history graph of the Teas Yates Unit from unitization to present.

Q. In your opinion, Mr. Fesmire, are the additional injection wells necessary in order to have an effective and efficient waterflood project?

A. Definitely.

Q. Have you made any calculations to determine the additional recovery that you might anticipate from the additional injection operation?

A. Yes, sir. The entire project that we're proposing,these injection wells and some new producing wells, will recover some additional 690,000 barrels over what the unit would recover without this drilling.

Q. Mr. Fesmire, let me direct your attention back to the packet of wellbore schematics and tabulation of

offset producing wells and have you identify for us in that package of exhibits the proposed wellbore schematic for the injection wells.

A. Okay. Within that packet is a schematic for each and every injection well we intend to drill and the ones we intend to convert.

Q. Would you find one of those schematics for us, identify it, and explain how you propose to complete it as an injection well?

A. Five pages into that exhibit is the Teas Yates Unit Proposed Injection Well 1-2 schematic.

It shows we intend to run 9-5/8ths inch 36-pound K-55 casing to a depth of approximately 1450 foot, in accordance with the Rule R-111 potash area casing program. The cement on that string will be circulated.

We then intend to run a 7-inch 23-pound K-55 casing an 8-3/4-inch hole set at approximately 3250 feet. Cement will be also -- will be staged and circulated on that string also.

Finally, we intend to run a 4-1/2 inch 10.5-pound full liner from surface to TD and tie -- and cement that string back to -- into the 7-inch.

Q. Will all these new injection wells be completed in accordance with the rules of -- set forth in the

R-111-A orders?

A. Yes, sir.

Q. Approximately, Mr. Fesmire, what will be the average injection volume per well?

A. The average injection volume should be approximately 250 barrels a day after stabilization. We do not intend to inject any more than 400 barrels a day.

Q. And what will be the source again of the injection water?

A. It will be unit water that is produced on the unit and make-up water from our Seven Rivers water supply well.

Q. This is water you're currently using in the waterflood project.

A. Yes, sir.

Q. And what is the injection formation?

A. The injection formation is the Yates formation, approximately 3400 - 3500 feet.

Q. All right, sir. And do you propose any stimulation program for the injection wells?

A. Yes, sir. The stimulation program for the injection wells will be simply a matrix acid job consisting of approximately 5000 gallons of 20 percent NEFD (sic) acid. We don't intend to frac the injection wells.

Q. Mr. Fesmire, have you provided copies of

the application and information to the offset operators and to the owners of the surface locations of the injection wells?

A. Yes, sir, we have.

Q. In your opinion, Mr. Fesmire, will approval of this application be in the best interest of conservation, the prevention of waste, and the protection of correlative rights?

A. Yes, sir.

Q. And were Exhibits One through Five and Exhibit Seven prepared by you or compiled under your direction and supervision?

A. Yes, sir.

MR. KELLAHIN: Mr. Nutter, we move the introduction of Exhibits One through Five and Exhibit Seven.

MR. NUTTER: Exhibits One through Five and Seven will be admitted in evidence.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Fesmire, you currently have, I believe, about nine injection wells in this project --

A. Yes, sir.

Q. -- is that right?

A. Nine wells.

Q. And you're adding five more.

A. Yes, sir, but we intend to plug and abandon 1-1.

Q. Oh, you will abandon one of the injection wells?

A. Yes, sir.

Q. I can't find that one -- oh.

A. That's about right. The casing on that was set way too high and we don't feel that we'll be able to save it and keep it as a good injection well.

Q. Where is 1-1? It's not on your exhibit there.

A. No, sir, it's already been removed from that proposed plat. It's a normal location in that 40-acre spot.

Q. Has it already been abandoned?

A. No, sir, we're -- we're not injecting much into it but it still is in active injection operation.

Q. Would you submit your proposed plugging program to us?

A. Yes, sir.

Q. Before we enter an order in this case?

A. Yes.

MR. KELLAHIN: Mr. Nutter, on various

exhibits submitted with the application that well has been shown. In fact it's on this one here.

MR. NUTTER: It shows it an abandoned well there. Okay.

Q. Mr. Fesmire, so you've been authorized ten wells but you've got nine active injection wells --

A. Yes, sir.

Q. -- and you propose to add five more.

A. Right.

Q. So you have a total of fourteen wells.

A. Correct.

Q. Now, at the current injection, you're using the nine wells. How much are you injecting per day at the present time in those nine wells?

A. I have that figure, sir. Last month, as a monthly total, we injected 51,656 barrels.

Q. And you've plotted here on your Exhibit Number Seven the rates of injection and I presume that amounts to approximately 1800 barrels per day, is that it?

A. Yes, sir.

Q. That's for the total of the nine wells.

A. Yes, sir. We're going to lower the injection pressures and the rates in each well.

Q. Uh-huh, so currently you're injecting

about two hundred barrels per day average.

A. Approximately, yes.

Q. And you stated that --

A. No. No, sir. About 1800 barrels a day on the unit.

Q. Oh, I mean per well.

A. Oh, yes, sir.

Q. Per well, assuming each of the nine wells --

A. Right.

Q. -- taking its proportionate share.

A. Right.

Q. So that would be about 1800 barrels per day and 200 barrels per day per well.

A. Yes, sir.

Q. All right. Now, what is your average injection pressure?

A. That's --

Q. What's the range?

A. Between 16 and 1800 pounds.

Q. 16 to 1800, and what is the average?

A. Probably close to 1650, sir.

Q. Okay, now you expect to inject an additional 400 barrels a day, you say?

A. That would be a maximum,sir. On the new

wells we intend to inject an average of 250 barrels per day.

Q. And you will lower the injection pressure on all wells.

A. Yes, sir. We currently have AFE'd a work-over program that involves going in and working over each and every injection well on the unit to achieve this.

Q. Try to make the formation a little more receptive to the water?

A. Yes, sir. We've -- for the ten years we've been taking some trash water and putting it in there. When we started the flood we had to take any water we could get and we have done some damage to the formation.

Q. Going to clean it up?

A. Yes, sir.

Q. Okay, and then you will have an average injection pressure of what?

A. We're hoping to keep it down below the 1150, sir.

MR. NUTTER: Are there any further questions of Mr. Fesmire?

MR. KELLAHIN: No, sir.

MR. NUTTER: He may be excused.

Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case Number 7677?

We'll take the case under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7677 heard by me on 9/15 19 84.

Examiner
Oil Conservation Division

SALLY BOYD, C.S.R.
Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
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SANTA FE, NEW MEXICO 87501
(505) 827-2434

September 30, 1982

Mr. Thomas Kellahin
Kellahin & Kellahin
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: CASE NO. 7677
ORDER NO. R-7084

Applicant:

Anadarko Production Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7677
Order No. R-7084

APPLICATION OF ANADARKO PRODUCTION
COMPANY FOR A WATERFLOOD EXPANSION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on September 15, 1982, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 30th day of September, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Anadarko Production Company, seeks authority to expand its Teas Yates Waterflood Project on its Teas Yates Unit, Teas Yates-Seven Rivers Pool, Lea County, New Mexico, by converting two wells located in Unit F of Sections 13 and 14, Township 27 South, Range 33 East, NMPM, to water injection and drilling three new injection wells at unorthodox locations in Units M of Section 11 and Unit L of Section 13, Township 20 South, Range 33 East, and Unit E of Section 18, Township 20 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project expansion should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the operator should take all steps necessary to ensure that the injected water enters only the proposed

injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells, and provided further, that prior to injection of water into proposed injection wells Tract 2 No. 1 and Tract 8 No. 4, applicant should take such steps as may be deemed necessary by the Supervisor of the Hobbs District Office of the Division to ensure the integrity of the casing, cementing, and plugging of Teas Yates Unit Tract 8 Well No. 1 (the old Spartan Federal 1-13) located in Unit E of Section 13, Township 20 South, Range 13 East, NMPM.

(6) That the injection wells or injection pressurization system should be so equipped as to limit injection pressure at the wellhead to no more than 1150 psi, but the Division Director should have authority to increase said pressure limitation, should circumstances warrant.

(7) That the subject application should be approved and the project should be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Anadarko Production Company, is hereby authorized to expand its Teas Yates Waterflood Project on its Teas Yates Unit, Teas Yates-Seven Rivers Pool, Lea County, New Mexico, by the injection of water into the Yates formation through the following described wells:

Old wells to be converted

Unit Tract No.	Well No.	Location
5	3	1980' FNL and 1650' FWL, Section 14;
2	1	1980' FNL and 1980' FWL, Section 13;

Both in Township 20 South, Range 33 East, NMPM.

New injection wells at unorthodox locations

Unit Tract No.	Well No.	Location
8	4	2250' FSL and 975' FWL, Section 13;
13	2	10' FSL and 660' FWL, Section 11;

Both in Township 20 South, Range 33 East, NMPM.

1	2	1980' FNL and 10' FWL, Section 18,

Township 20 South, Range 34 East, NMPM.

(2) That prior to injection of water in unit wells Tract 2 No. 1 and Tract 8 No. 4 as described above, applicant shall take such steps and action as may be deemed necessary by the Supervisor of the Hobbs District Office of the Division to ensure the integrity of the casing and cementing, as well as the subsequent plugging of Unit Well Tract 8 No. 1, located in Unit E of Section 13, Township 20 South, Range 33 East, NMPM.

(3) That injection into each of said wells shall be through internally coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation; that the casing-tubing annulus of each injection well shall be loaded with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(4) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(5) That the injection wells herein authorized and/or the injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 1150 psi, provided however, the Division Director may authorize a higher surface injection pressure upon satisfactory showing that such pressure will not result in fracturing of the confining strata.

(6) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.

(7) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

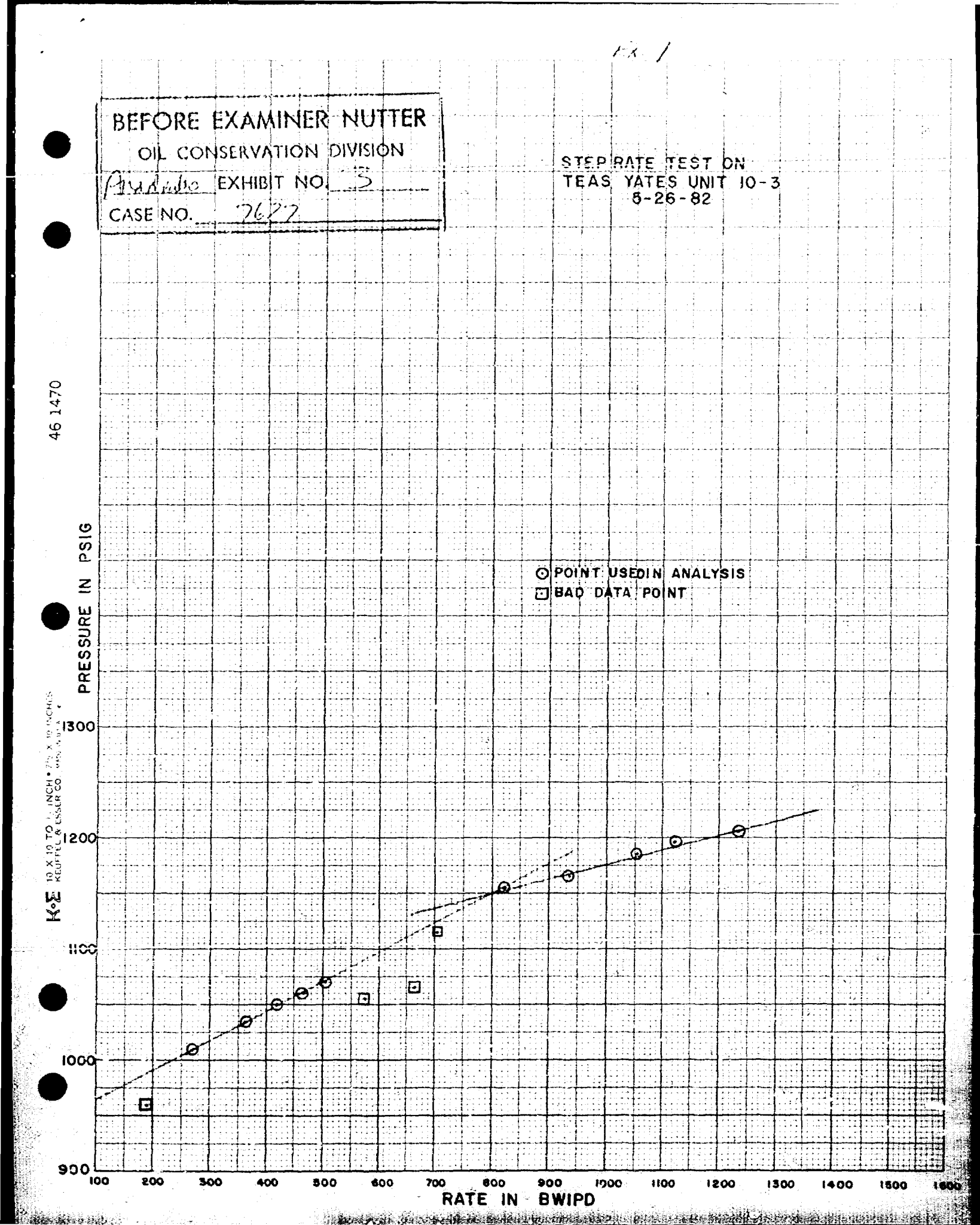
DONE at Santa Fe, New Mexico, on the day and year above designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
Arvadito EXHIBIT NO. 5
CASE NO. 7677

STEP RATE TEST ON
TEAS YATES UNIT 10-3
5-26-82



46 1470

The following data points were obtained in a step rate test that was run on 5-26-82 and was witnessed by Mr. Edd See with the Oil Conservation Division.

PT. #	FINAL SURFACE PRESSURE (psig)	FINAL RATE (BWIPD)
1	960	190
2	1010	270
3	1035	368
4	1050	421
5	1060	467
6	1070	508
7	1055	576
8	1065	665
9	1115	705
10	1155	823
11	1165	934
12	1185	1054
13	1195	1122
14	1205	1234

The recorded rates and pressures are after a 45 minute stabilization time.

Points 1, 7, 8 and 9 appear to be bad data.

Using points 2, 3, 4, 5, 6 and 10 in a least squares analysis, the equation for the best fit line is:

$$BWIPD = -3577.9179 + 3.8126 \text{ (Pressure)} \quad r^2 = .9995$$

Using points 11, 12, 13 and 14 in a least squares analysis, the equation for the best fit line is:

$$BWIPD = -7545.4286 + 7.2686 \text{ (Pressure)} \quad r^2 = .9768$$

Equating the two lines and solving for the intersection will give the surface fracture pressure:

$$-3577.9179 + 3.8126 \text{ (P)} = -7545.4286 + 7.2686 \text{ (P)}$$

$$\underline{P = 1148.01 \text{ psig}}$$

Calculated Fracture Pressure = <u>1148 psig</u>

This is the information for Teas Yates Well

1-2

current inj press 1600-1800 about 1650 ave

currently injecting 51,650 BWPD (9 wells) 1800 BPD 200 BPD/well

expect to inj 250 BWPD ave into new wells. 400 BWPD max

lower inj pres on all wells @ 1150 or less.

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
Anadarko EXHIBIT NO. 4
CASE NO. 7677

TABLE OF ALL WELLS WITHIN 2 MILE RADIUS OF PROPOSED WIW 1-2

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 3-2 Operator: Anadarko Production Company	2310 FSL & 1980 FEL Unit K Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-31-57	4-1-58 TA 9-25-58 (Recompleted: 10-3-74)	3543	3478	Yates	Perfs: 3335-3350, 3361-3366, 3386-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. Casing: 8 5/8" 32# Lapweld set @ 1001' and cemented w/255 sx (100 sx circ. to pit). 5½" 14# J-55 set @ 3491 and cemented w/75 sx (top @ 3110 by survey). Cable Tool Drilled Contractor: Roach & Shepard
Texas Yates Unit 3-3 Operator: Anadarko Production Company	1815 FNL & 990 FEL Unit H Sec. 13, T20S, R33E, NMPM	Active Oil Well	1-7-58	2-25-58	3499	-	Yates	Open Hole: 3464-3479 Perfs: 3302-11, 3316-20, 3324-34, 3342-46, 3353-57, 3362-76, 3388-3406, 3436-44. Casing: 8 5/8" set @ 997 cemented w/400 sx. cmt. circ. 5½" set @ 3464 cemented w/500 sx. Survey showed cement to within 100' of surface, dumped 15 sx to bring cement to surface. Cable Tool Drilled Contractor: Roach & Shepard

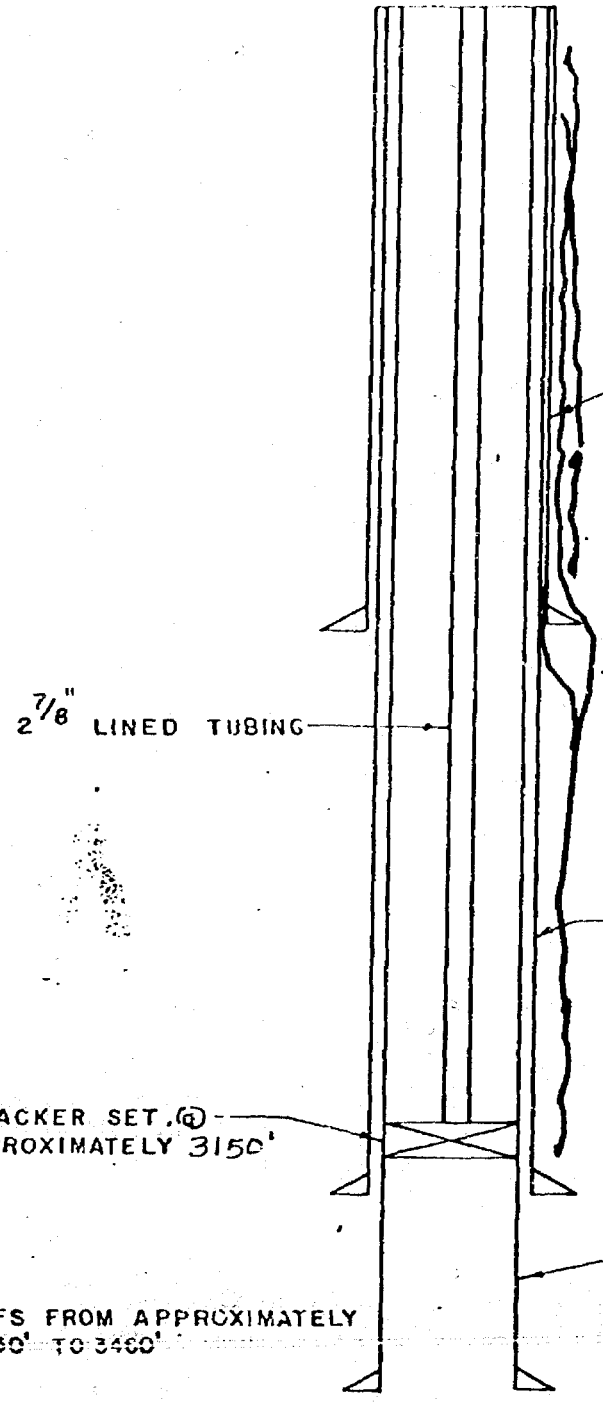
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Wallen Federal #6 Operator: Wallen Production Company	2310 FNL & 2310 FWL Unit F Sec. 18, T20S, R34E, NMPM	Active Oil Well	12-9-72	6-18-73	3612		Yates	Perfs: 3427-3538 Casing: 9 5/8" set @ 1500' cemented w/500 sx. cmt. circ. 7" set @ 3381' w/330 sx 4½" liner from 311.2 to 3612 cemented w/50 sx. Contractor: Cactus Drlg Co.
Texas Yates Unit 1-1 Operator: Anadarko Production Company	1980 FNL & 660 FNL Unit E Sec. 18, T20S, R34E, NMPM	Water Injection Well	8-14-58 (convert to water injection well 5-15-75)	9-5-58	3525	-	Yates	Open Hole: 3267-3525 Casing: 8 5/8" 24# J-55 set @ 1514 cemented w/250 sx. cmt. circ. 5½" 14# J-55 set @ 3267 cemented w/375 sx. cmt. circ. Rotary Tool Drilled Contractor: H. P. Holmes

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Wallen Federal #8 Operator: Wallen Production Company	2310 FSL & 2310 FWL Unit K Sec. 18, T20S, R34E, NMPM Lea County, New Mexico	P & A (Junked before Production)	7-16-75	Junked P & A 10-7-75	3556		Yates	**Junked and Abandoned** **Casing: 16" 32# cemented w/380 sx cmt. circ. 7" 24# set @ 3300 w/1150 sx cmt. circ. 4½" 10.5# liner from 2981 to 3556 cemented w/100 sx.** **Cable Tool Drilled** **Contractor: N/A**
Wallen Federal #8X Operator: Wallen Production Company	2310 FSL & 2295 FWL Unit K Sec. 18, T20S, R34E, NMPM	Producing Oil Well	10-18-75	3-7-76	3562		Yates	**Perfs: 3410-3516** **Casing: 16" set @ 100' cemented w/380 sx cmt circulated. 7" set @ 3258 w/1150 sx cmt. circ. 4½" liner from 2950'-3562' cemented w/60 sx.** **Cable Tool Drilled** **Contractor: N/A**

TEAS YATES UNIT

PROPOSED INJECTION WELL 1-2

new well



9 5/8" 36# K-55 CASING IN 12 1/4" HOLE SET AT APPROX. 1450'. CEMENT WILL BE CIRCULATED.

2 7/8" LINED TUBING

7" 23# K-55 CASING IN 8 3/4" HOLE SET AT APPROX. 3250'. CEMENT WILL BE STAGED AND CIRCULATED.

PACKER SET @ APPROXIMATELY 3150'

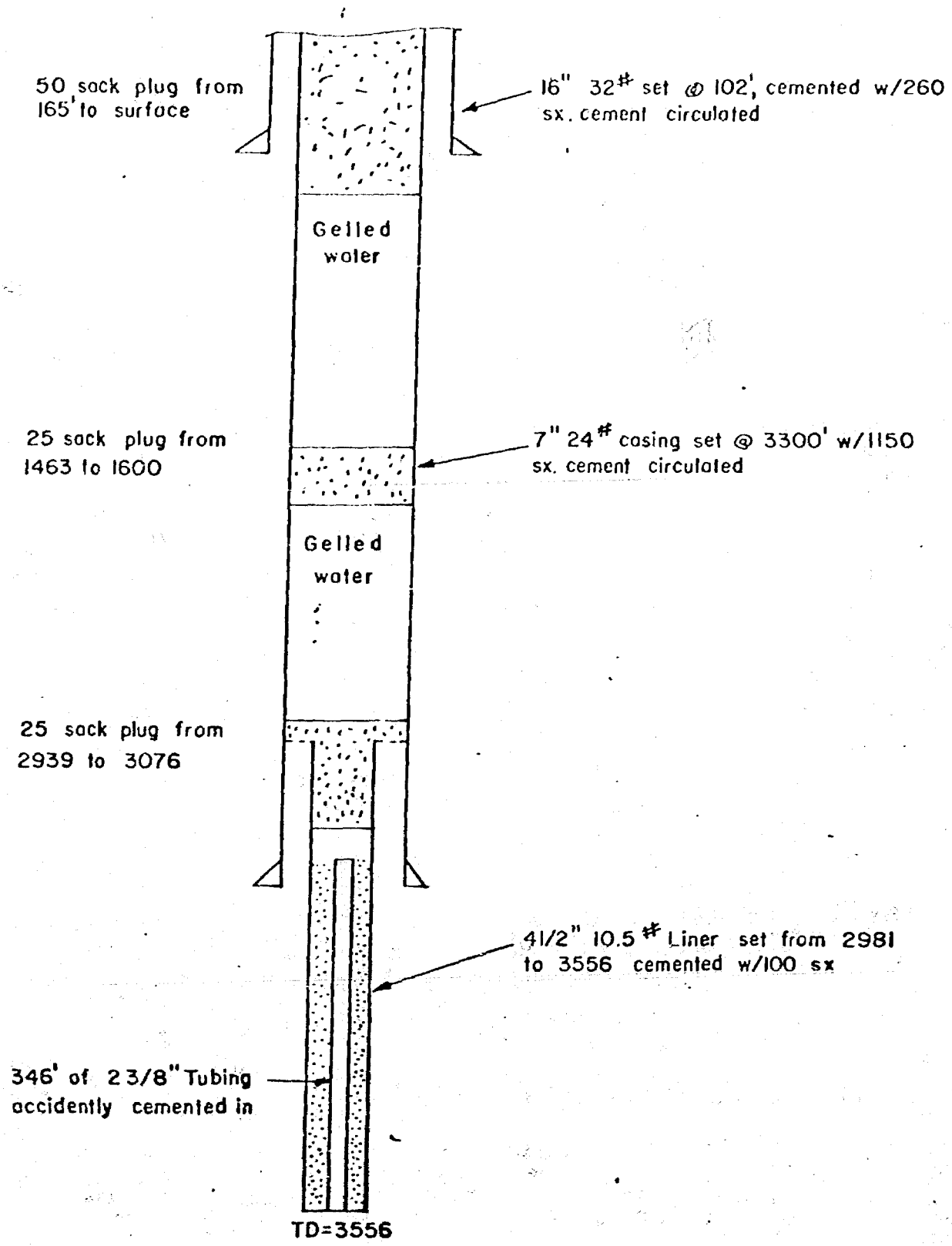
4 1/2" 10.5# LINER FROM SURFACE TO T.D. CEMENTED SO AS TO TIE BACK TO 7" CASING.

PERFS FROM APPROXIMATELY 3330' TO 3460'

TD APPROXIMATELY 3550'

WALLEN FEDERAL #8

P & A 10-7-75



This is the information for Teas Yates Well

2-1

WELLS OF AREA WITHIN 1 MILE RADIUS OF PROPOSED WIW 2-1

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 2-2 Operator: Anadarko Production Company	660 FNL & 330 FWL Unit D, Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-25-54	11-21-54 (Converted 10-26-54)	3359 DDTD 3535		Yates	Open Hole: 3325-3535 Casing: 5½" set @ 3325 cemented w/ 200 sx around shoe and 200 sx thru perf @ 1410. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 3-2 Operator: Anadarko Production Company	2310 FSL & 1980 FEL Unit K Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-31-57	4-1-58 TA 9-25-58 (Recompleted: 10-3-74)	3543	3478	Yates	Perfs: 3335-3350, 3361-3366, 3386-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. Casing: 8 5/8" 32# Lapweld set @ 1001' and cemented w/255 sx (100 sx circ. to pit). 5½" 14# J-55 set @ 3491 and cemented w/75 sx (top @ 3110 by survey). Cable Tool Drilled Contractor: Roach & Shepard

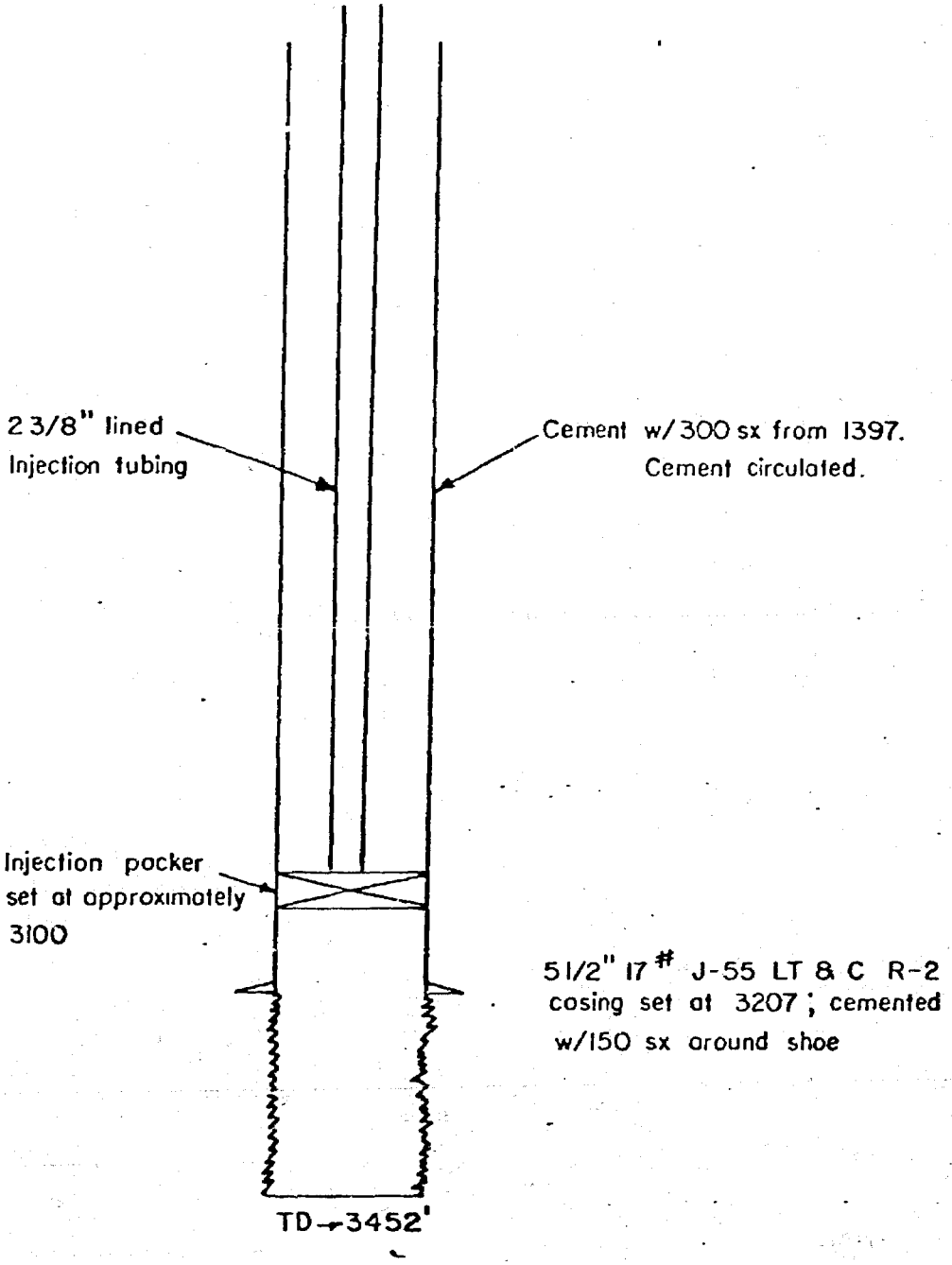
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 3-3 Operator: Anadarko Production Company	1815 FNL & 990 FEL Unit H Sec. 13, T20S, R33E, NMPM	Active Oil Well	1-7-58	2-25-58	3499	-	Yates —	Open Hole: 3464-3499 Perfs: 3302-11, 3316-20, 3324-34, 3342-46, 3353-57, 3362-76, 3388-3406, 3436-44 Casing: 8 5/8" set @ 997 cemented w/400 sx. (Cmt. Circ.) 5½" set @ 3464 cemented w/ 500 sx. Survey showed cement to within 100' of surface, dumped 15 sx to bring cement to surface. Cable Tool Drilled Contractor: Roach & Shepard
Teas Yates Unit 3-4 Operator: Anadarko Production Company	990 FNL & 1650 FEL Unit B Sec. 13, T20S, R33E, NMPM	Water Injection Well	11-13-58 Re-entered 7-22-74 Re-completed as injection well 2-26-75	P & A 12-14-53	3536	3506	Yates	Perfs: 3306-11, 3314-20, 3326-34, 3340-46, 3360-67, 3373-91, 3399-3406, 3469-74, 3478-84. Casing: 8 5/8" 24# set @ 990' cemented w/525 sx cmt. circ. 4½" 10.5# J-55 set @ 3511 with a D. V. tool @ 2813 cemented w/880 sx. TOC @ 300' by survey. Orig. Cable Tool Drilled Re-entry by Rotary Tools Contractor: Cactus Drlg. Corp.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 4-1 Operator: Anadarko Production Company	1980 FNL & 1980 FEL Unit G Sec. 13, T20S, R33E, NMPM	...ctive Oil Well	7-21-57	8-30-57	3389 DDTD 3482	3426	Yates	Open Hole: 3369 to 3426 Perfs: 3292 to 3328, 3346 to 3364 Casing: 5½" 14# & 15½# J-55 set @ 3369 cemented w/620 sx around shoe and 375 sx thru cellar. Cemented to surface. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 8-1 Operator: Anadarko Production Company	1980 FNL & 660 FWL Unit E Sec. 13, T20S, R33E, NMPM	Oil Producer (P & A)	2-27-51 P & A 7-56	3-29-51	3338	3325	Yates	Perfs: 1385-86 (squeeze perf) Open Hole: 3178 to 3325 Casing: 7" set @ 3178 cemented w/100 sx, 200 sx squeezed @ 1385-86. Cable Tool Drilled Contractor: Spartan Drlg. Co. See plugging diagram.

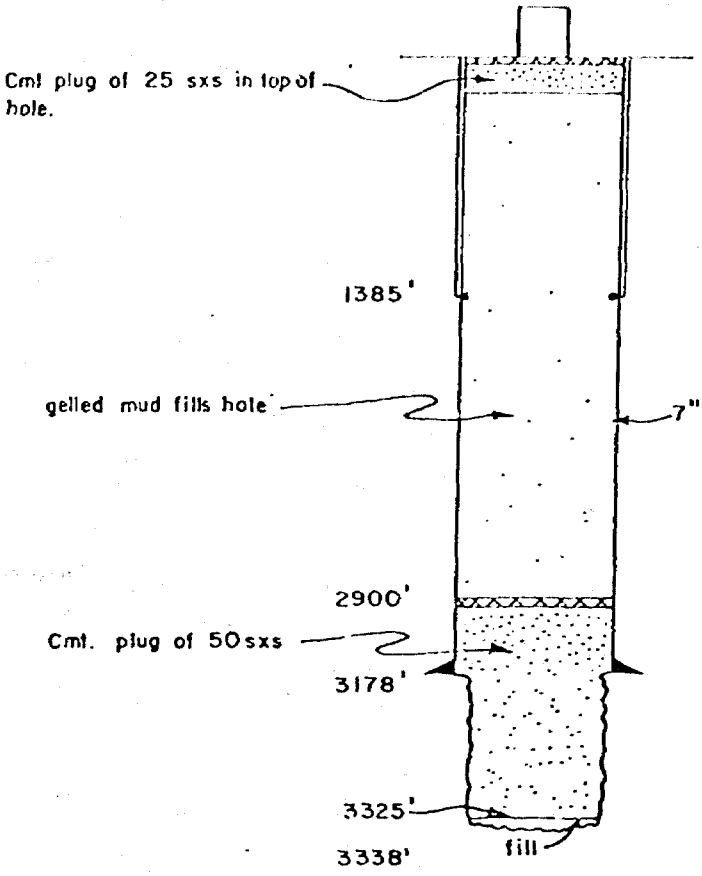
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 8-2 Operator: Anadarko Production Company	1980 FNL & 990 FWL Unit E Sec. 13, T20S, R33E, NMPM	Active Oil Producer (replacement for 8-1)	5-21-56	7-14-56 (recompleted 10-27-77)	3328 DDTD 3410	-	Yates	Open Hole: 3252 to 3410 Casing: 8 5/8" set @ 1500' w/450 sx, cmt circulated. 5½" set @ 3252 w/175 sx. Cable Tool Drilled Contractor: Thomas Drlg, Co.

TEAS YATES UNIT 2-1

PROPOSED CONVERSION TO INJECTION



P & A: July, 1956



Well Name & Number:

Teas Yates Unit 8-1 (APC)

Location:

1980'FNL, 660'FWL, Unit E
Sec. 13, T20S R33E

TOC:

200 sxs thru. perf. @ 1385'.

Csg:

7" csg @ 3178' cmtd w/100 sxs @ shoe.

TD: 3338'

Perfs:

Squeeze perf from 1385'-86'.

This is the information for Teas Yates Well

5-3

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 5-1 Operator: Anadarko Production Company	660 FNL & 660 FWL, Unit D, Sec. 14, T20S, R33E, NMPM, Lea County, New Mexico	Oil Production P & A	8-26-53	9-30-53 (P & A 2-21-75)	3388	3266	Yates Seven Rivers	Open Hole: 3373-3385 Casing: 5½" set @ 3250' w/50 sacks around shoe plus 370 sx thru a perf @ 1500. Pulled tbg and filled with cement to surface to P & A. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 5-4 Operator: Anadarko Production Company	2310 FNL & 990 FWL, Unit E, Sec. 14, T20S, R33E, NMPM	Oil Producer P & A then re-entered 11-16-81 Currently waiting on recompletion	12-24-53	1-22-54 (P & A 12-58 re-entered 11-16-81)	3416	3389	Yates Seven Rivers	Open Hole: 3370-3389 Casing: 7" set @ 3370, cemented w/ 450 sx, circ 30 sxs to pit. Cable Tool Drilled Contractor: J. C. Clower
Mahaffey-Fed. ARC #1 Operator: Arco	660 FNL & 1980 FWL, Unit C, Sec. 14, T20S, R33E, NMPM	Gas Producer (Dual) (Morrow currently shut-in, Bone Springs producing)	4-30-62	12-6-62 (BS) 12-31-62 (M)	14948	13800	Bone Springs, Morrow	Perfs: Morrow 13,294-302, 13,309-317, 13,423-429, 13,526-528, 13,532-543, Bone Springs 9,408-14, 9,416-18, 9,422-24, 9,430-34, 9,442-50, 9,454-57. Casing: 20" @ 1400' w/1900 sxs 13 3/8" @ 3100' w/3500 sxs 9 5/8" @ 9000' w/2620 sxs 7" @ 13813' w/1350 sxs Rotary Tool Drilled

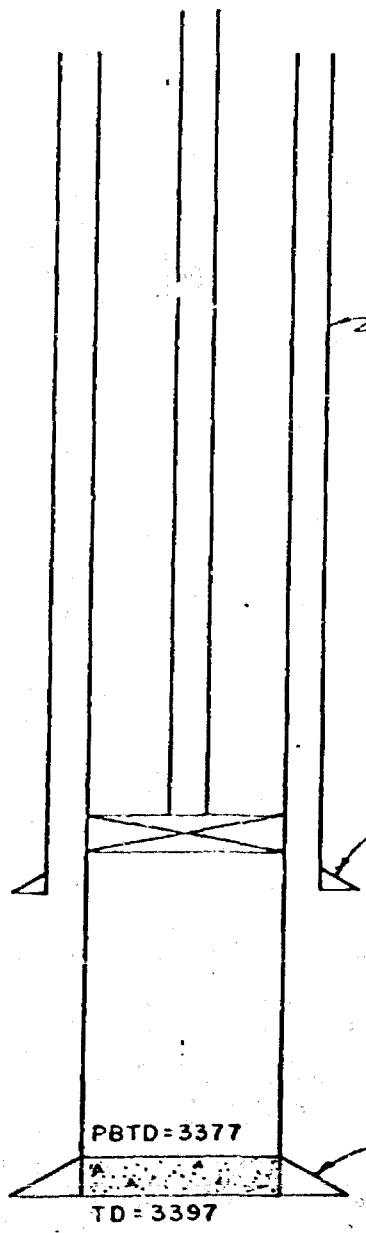
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 5-2 Operator: Anadarko Production Company	660 FNL & 1650 FWL, Unit C, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	10-4-53 (Recompleted	10-29-53 8-30-56)	3278 deepened to 3392	3370	Yates Seven Rivers	Open Hole: 3325-3392 Casing: 7" @ 3240 cemented w/50 sx around shoe and 420 sxs from 1000'. 2" tbg at 3286. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 5-5 Operator: Anadarko Production Company	990 FNL & 990 FWL, Unit D, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	7-9-74	9-15-74	3385	3265	Yates Seven Rivers	Perfs: 3137-3250 Casing: 9 5/8" @ 1420 cemented w/560 sx (circulated). 7" @ 3085 w/420 sx 5½" liner w/top @ 2943 & bottom @ 3375 cemented w/50 sxs 2 3/8" tbg @ 3106. Rotary Tool Drilled Contractor: Cactus Drlg. Co.
Teas Yates 6-1 Operator: Anadarko Production Company	990 FSL & 2310 FWL, Unit L, Sec. 14, T20S, R33E, NMPM	Active Water Injection Well	8-1-65 (Converted 5-3-72)	10-28-65	3428	3418	Yates	Perfs: 3236-40, 3244-47, 3252-56 Casing: 8 5/8" @ 950 cemented w/ 300 sx. 4½" @ 3426 cemented w/523 sx. 2" Salta lined injection tbg @ 3095 Rotary Tool Drilled Contractor: N/A

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 7-1 Operator: Anadarko Production Company	2310 FSL & 1960 FWL, Unit K, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	2-26-54	3-10-54 (Recompleted June 1977)	3324 DDTD 3420		Yates Seven Rivers	Perfs: 3180-97, 3210-14, 3227-59 Open Hole: 3280-3420 Casing: 7" @ 3280 cemented w/100 sx + 310 sxs @ 1000, 2" tbg @ 3275 Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 9-1 Operator: Anadarko Production Company	990 FSL & 2310 FWL, Unit N, Sec. 14, T20S, R33E, NMPM	Water Injection Well	3-22-54	4-20-54 (converted 3-6-72)	3338	3338	Yates Seven Rivers	Perfs: 3267-71, 3275-86 Open Hole: 3294-3338 Casing: 7" @ 3290 w/420 sxs, 2" Salta lined tbg @ 3204 Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 10-2 Operator: Anadarko Production Company	1650 FNL & 2310 FEL, Unit G, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	2-13-54	3-18-54 (recompleted 5-6-77)	3330 DDTD 3394		Yates —	Perfs: 3228-3394 Open Hole: 3202-24 Casing: 5½ @ 3228 w/100 sxs around shoe and 150 sxs @ 1368 Cable Tool Drilled Contractor: N/a

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 11-1 Operator: Anadarko Production Company	990 FNL & 2310 FEL, Unit B, Sec. 14, T20S, R33E, NMPM	Water Injection Well	12-19-54 (converted 5-6-72)	1-28-55	3319	3288	Yates	Open Hole: 3215-3288 Casing: 5½" @ 3215 w/435 sx cmt. cmt. circ to surface, 2" Salta lined tbg @ 3145. Cable Tool Drilled Contractor: J. C. Clower
Texas Yates Unit 12-1 Operator: Anadarko Production Company	660 FNL & 660 FEL, Unit A, Sec. 15, T20S, R33E, NMPM	Water Injection Well	6-25-53 (Converted 5-3-72)	8-10-53	3342	-	Yates	Open Hole: 3293-3342 Casing: 5½" @ 3293 w/350 sx cmt. circ. 2 3/8" Salta lined tbg @ 3195.
Texas Yates Unit 14-2 Operator: Anadarko Production Company	2310 FSL & 2310 FEL, Unit J, Sec. 14, T20S, R33E, NMPM	Active Producing Well	(P & A 12-31-54) (Re-spud 6-5-74) (recomplete 4-22-75)		3455		Yates	Casing: 10 3/4" @ 513 w/456 sx, cmt circ. 4½" @ 3455 w/765 sx, cmt circ. Perfs: 3212-3280, 3316-3334 Drilled with Cable Tools, re-entered with Rotary Tools.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit WSW #1 Operator: Anadarko Production Company	1330 FNL & 1330 FWL, Unit F, Sec. 14, T20S, R33E, NMPM	Active Water Supply Well	3-31-81	8-31-81	3830		Seven Rivers Reef	Casing: 10 3/4" 40.5# St & C, R-3 J-55 set @ 1260'. Cmted w/825 sx, circ 200 sx to pit. 7 5/8" 26.4# N-80 set @ 3100'. Cmted w/690 sx cmt. circ 200 sx to pit. 5½" 15.5# K-55 ST & C Liner set @ 3830 w/top @ 2690'. Cmt w/150 sx circ 20 sx. Perfs: 3660-63, 3674-81, 3696-3700, 3708-11, 3724-27, 3746-49, 3758-62. Rotary Tool Drilled Contractor: Warton Drlg. Co.
Teas Yates Unit 10-3	2265 FNL & 1425 FEL, Unit G, Sec. 14, T20S, R33E, NMPM	Water Injection	1-10-82	4-18-82	3426		Yates	Perfs: 3222 to 3252, 3258-3264, 3330-50. Casing: 9 5/8" 36# K-55 ST & C set @ 1334 and cemented w/620 sx around shoe. Cement circ. 7" 23# K-55 set @ 3210 and cemented w/ 920 sx around shoe. Cement circ. 4½" 10.5# J and K-55 set @ 3426 cemented w/55 sx around shoe. TOC @ 2770 by survey. Contractor: Warton Drlg. Co.

TEAS YATES UNIT 5-3
PROPOSED INJECTION WELL



2 3/8" injection tubing and packer set @ approximately 3100'

PERFS:

3150-70, 3210-35
3265-85, 3332-40
3356-64, 3367-71

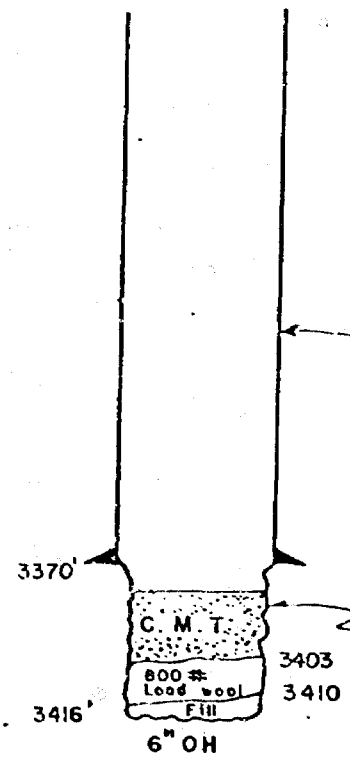
P&A: Dec, 1958
Re-entered 11-16-81

Well Name & Number:

Teas Yates Unit 5-4 (APC)

Location:

2310' FNL, 990' FWL, Unit E
Sec. 14, T 20S R 33E



TOC:

Cement Circulated

7" csg

Csg:

7" csg @ 3370' cmtd w/450 sxs @ shoe. Circ. 30 sx

Cleaned Out To 3389'
On 11-16-81

TD: 3416'

Perfs:

None

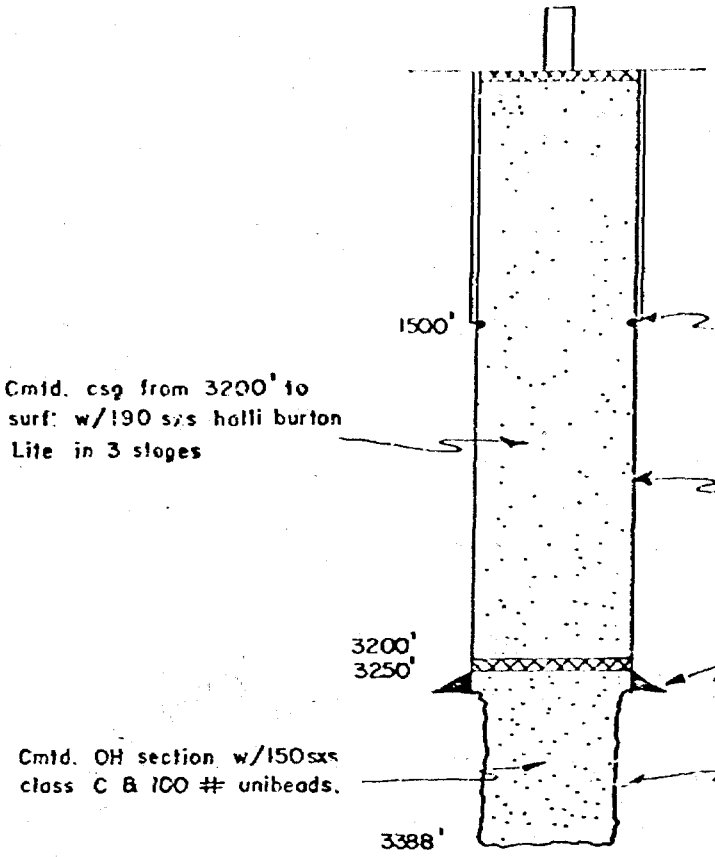
P & A : 2-21-75

Well Name & Number :

Teos Yates Unit 5-I (APC)

Location :

660' FNL , 660' FWL , Unit D
Sec 14 , T20S R33E



TOC:

370 sxs thru perf. @ 1500' to surface.

5 1/2" Csg.

Csg :

5 1/2" Csg @ 3250' Cmtd. w/50 sxs @ shoe

4 3/4" hole

TD: 3388'

Perfs :

Squeeze perf @ 1500'

This is the information for Teas Yates Well

8-4

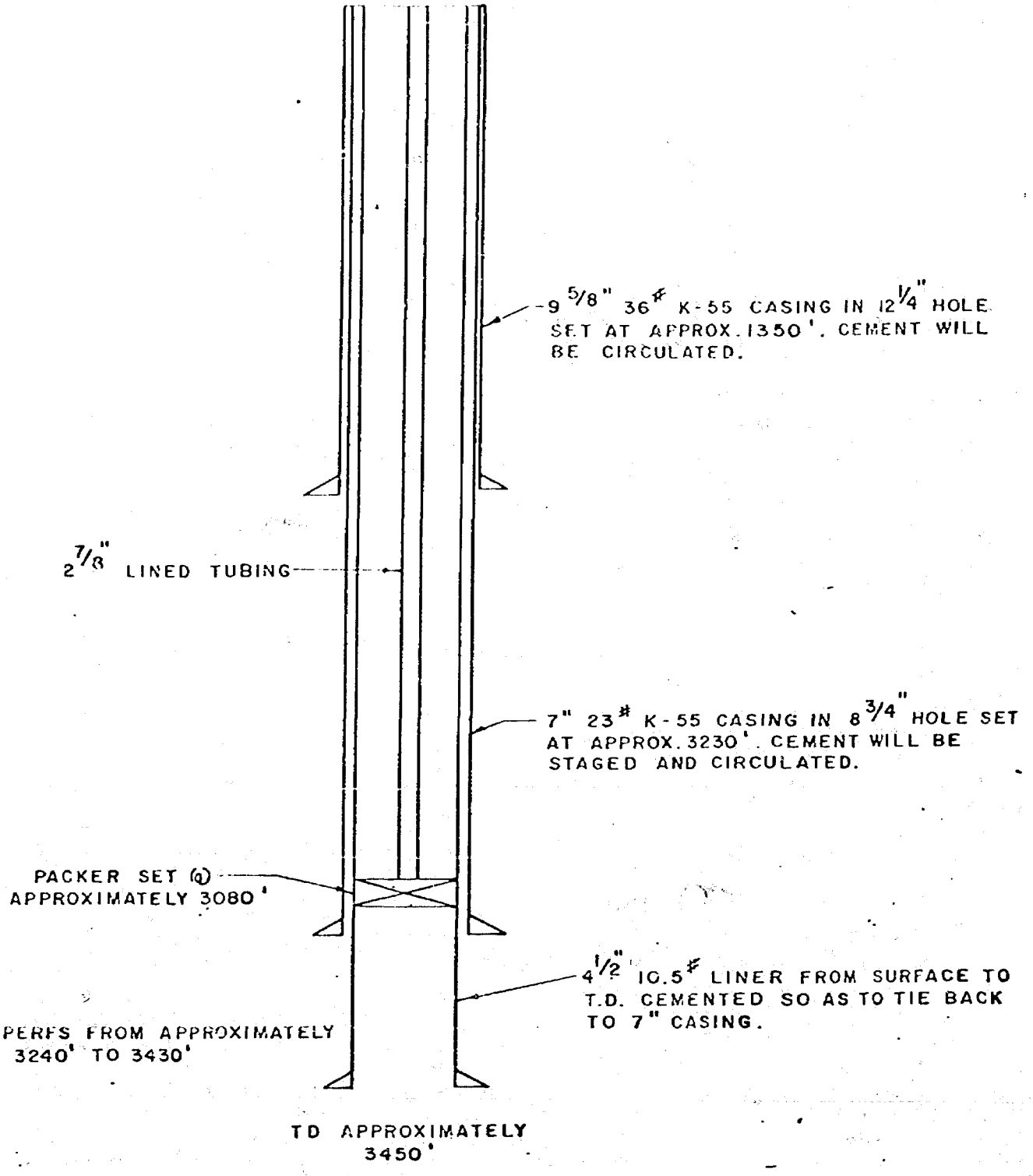
Name, Number ator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Yates Unit 8-1 ator: Anadarko uction Company	1980 FNL & 660 FWL, Unit E, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer (P & A)	2-27-51	3-29-51 (P & A 7-56)	3338	3325	Yates	Perfs: 1385-86 (squeezed perfs) Open Hole completion: 3178 to 3325. Casing: 7" set @ 3178 cemented w/100 sx, 200 sx squeezed @ 1385-1386. Cable Tool Drilled. Contractor: Spartan Drlg. Co.
Yates Unit 8-2 ator: Anadarko uction Company	1980 FNL & 990 FWL, Unit E, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer active (replacement for 8-1)	5-21-56	7-14-56 (recompleted 10-27-77)	3328 deepened to 3410		Yates	Open Hole completion: 3252 to 3410. Casing: 8 5/8" set @ 1500' w/ 450 sx circulated cmt. 5½" set @ 3252 w/175 sx. 2 7/8" tbg @ 3291. 4 3/4" open hole 3252 to 3410. Cable Tool Drilled. Contractor: Thomas Drlg. Co.
Yates Unit 15-1 ator: Anadarko duction Company	1980 FSL & 660 FEL, Unit I, Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Well		6-18-51 (P & A 6-18-51) (re-entered 7-12-74 converted and completed 2-38-75)	3535	3523	Yates	Perfs: 3261-76, 3282-99, 3319-25, 3334-43, 3348-58, 3380-86, 3392-3400. Casing: 10 3/4" set @ 510' w/ 635 sx cement. 4½ set @ 3517 w/1260 sxs (150 circ to pit) 2 3/8" salta lined tbg @ 3191. Cable Tool Drilled, Rotary Tools used on re-entry. Contractor: N/A
							—	

. Name, Number rator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
s Yates Unit 2-1 rator: Anadarko duction Company	1980 FNL & 1980 FWL, Unit F Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Acitve	2-27-52	4-14-52	3209 drilled deeper to 3350 then to 3452		Yates	Open Hole completion 3209 to 3452. Casing: 5½" 14# set @ 3209 cemented w/150 sx around shoe and 300 sx thru D. V. Tool @ 1397 (circ to surface). Cable Tool Drilled.
s Yates Unit 10-1 rator: Anadarko duction Company	1650 FNL & 330 FEL, Unit H, Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Active	6-28-52	8-15-52	3209 drilled deeper to 3341 then to 3428		Yates	Open Hole completion 3209 to 3428. Casing: 5½" 15# set @ 3209 cemented w/150 sx around shoe and 300 sx thru D. V. Tool @ approximately 1400. Cable Tool Drilled.
s Yates Unit 3-2 rator: Anadarko duction Company	2310 FSL & 1980 FEL, Unit K Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Active	10-31-57	4-1-58 (TA 9-25-58) (recompleted 10-3-74)	3543	3478	Yates —	Perfs: 3335-3350, 3361-3366, 3386-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. Casing: 8 5/8" 32# Lapweld set @ 1001' and cemented with 225 sx (100 sx circ to pit). 5½" 14# J-55 set @ 3491 and cemented with 75 sx (top @ 3110 by survey). Cable Tool Drilled. Contractor: Roach and Shepard

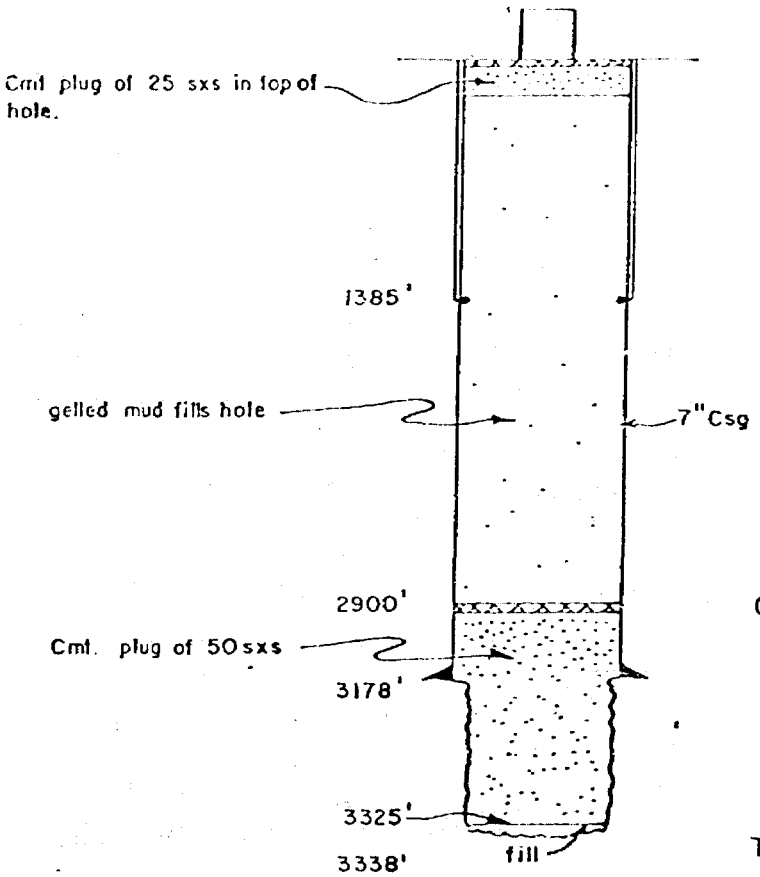
Name, Number rator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion; Perf(s) and Well Construction
s Yates Unit 2-2 rator: Anadarko duction Company	660 FNL & 330 FWL, Unit D, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Active	10-25-54	11-21-54 (converted: 10-26-74)	3359 DDTD 3535		Yates	Open Hole: 3325-3535 Casing: 5½" set @ 3325 cemented w/200 sx around shoe and 200 sx thru perf @ 1410. Cable Tool Drilled. Contractor: J. C. Clower
s Yates Unit 4-1 rator: Anadarko duction Company	1980 FNL & 1980 FEL, Unit G Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Active	7-21-57	8-30-57	3389 DDTD 3482	PBTD 3426	Yates	Open Hole: 3369 to 3426 Perfs: 3292 to 3328 and 3346 to 3364. Casing: 5½" 14# & 15½ J-55 set @ 3369 cemented w/620 sx around shoe and 375 sx through cellar. Cemented to surface. Cable Tool Drilled. Contractor: J. C. Clower
s Yates Unit 10-3 rator: Anadarko duction Company	2265 FNL & 1425 FEL, Unit G Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection	1-10-82	4-18-82	3426		Yates	Perfs: 3222 to 3252, 3258 to 3264, 3270 to 3310, 3330 to 3350. Casing: 9 5/8" 36# K-55 ST & C set @ 1334 and cemented w/620 sx around shoe. Cement circ. 7" 23# K-55 set @ 3210 and cemented w/ 920 sx around shoe, cement circ. 4½" 10.5# J and K-55 set @ 3426 cemented w/55 sx around shoe. Top of cement @ 2770 by survey.
							—	

TEAS YATES UNIT

PROPOSED INJECTION WELL 8-4



P & A: July, 1956



Well Name & Number:

Teas Yates Unit 8-1 (APC)

Location:

1980'FNL, 660'FWL, Unit E
Sec 13, T20S R33E

TOC:

200 sxs thru perf. @ 1385'

Csg:

7" csg @ 3178' cmtd w/100 sxs @ shoe.

TD: 3338'

Perfs:

Squeeze perf from 1385'-86'.

This is the information for Teas Yates Well

13-2

WELLS WITHIN A ½ MILE RADIUS OF PROPOSED WIW

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 5-1 Operator: Anadarko Production Company	660 FNL & 660 FWL, Unit D Sec. 14, T20S, R33E, NMPM Lea County, New Mexico	Oil Production P & A	8-26-53 (P & A 2-21-75)	9-30-53	3388	3266	Yates Seven Rivers	Open Hole: 3373-3385 Casing: 5½" set @ 3250' w/50 sacks around shoe plus 370 sx thru a perf @ 1500. Pulled tbg and filled with cmt to surface to P & A. Cable Tool Drilled Contractor: J. C. Clower
Texas Yates Unit 5-2 Operator: Anadarko Production Company	660 FNL & 1650 FWL, Unit C Sec. 14, T20S, R33E, NMPM	Active Oil Producer	10-4-53 (Recompleted 8-30-56)	10-29-53	3278 deepened to 3392	3370	Yates Seven Rivers	Open Hole: 3225-3392 Casing: 7" @ 3240 cemented w/50 sx around shoe and 420 sxs from 1000', 2" tbg @ 3286. Cable Tool Drilled Contractor: J. C. Clower
Texas Yates Unit 5-3 Operator: Anadarko Production Company	1980 FNL & 1650 FWL Unit F, Sec. 14, T20S, R33E, NMPM	Active Oil Producing Well (will be converted to injection)	11-12-53	12-16-53	3397	3377	Yates Seven Rivers	Perfs: 3150-70, 3210-35, 3265-85, 3332-40, 3356-64, 3367-71. Casing: 7" set @ 3330 cemented w/ 100 sx around shoe and 400 sx thru perf @ 1000' cmt. circ. 4½" set @ 3397 cemented w/ 375 sx around shoe. Cable Tool Drilled Contractor: J. C. Clower

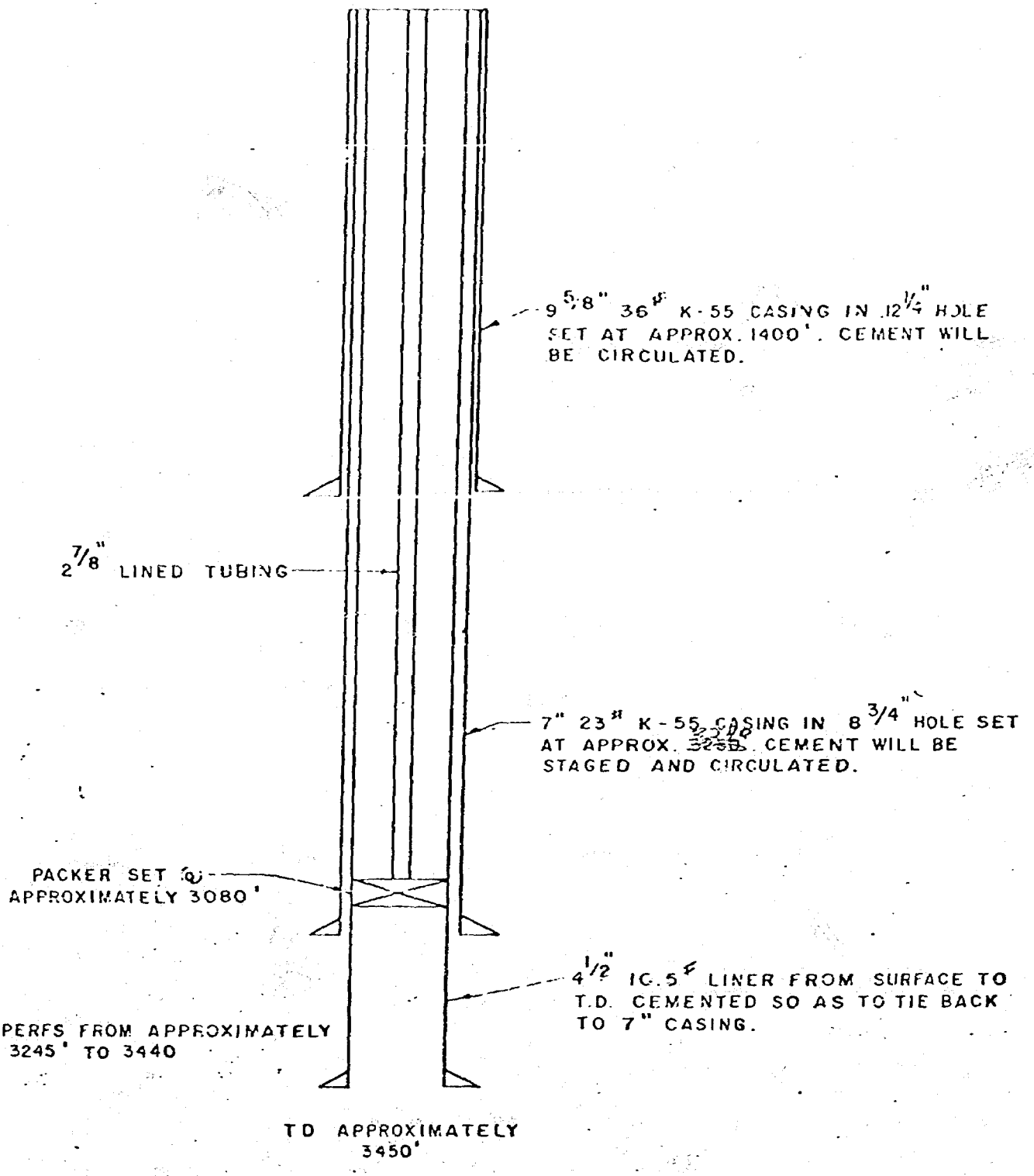
ll Name, Number erator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
as Yates Unit 5-4 erator: Anadarko oduction Company	2310 FNL & 990 FWL, Unit E Sec. 14, T20S, R33E, NMPM	Oil Producer P & A then re-entered 11-16-81 Currently waiting on recompletion	12-24-53 (P & A 12-58 re-entered 11-16-81)	1-22-54	3416	3389	Yates Seven Rivers	Open Hole: 3370-3389 Casing: 7" set @ 3370, cemented w/ 450 sx, circ 30 sxs to pit Cable Tool Drilled Contractor: J. C. Clower
as Yates Unit 5-5 erator: Anadarko oduction Company	990 FNL & 990 FWL, Unit D Sec. 14, T20S, R33E, NMPM	Active Oil Producer	7-9-74	9-15-74	3385	3265	Yates Seven Rivers	Perfs: 3137-3250 Casing: 9-5/8" @ 1420 cemented w/560 sx (circulated). 7" @ 3085 w/420 sx 5½" liner w/top @ 2943 & bottom @ 3375 cemented w/ 50 sxs 2 3/8" tbg @ 3106. Rotary Tool Drilled Contractor: Cactus Drlg Co.
as Yates Unit 12-1 erator: Anadarko oduction Company	660 FNL & 660 FEL, Unit A Sec. 15, T20S, R33E, NMPM	Water Injection Well	6-25-53 (Converted 5-3-72)	8-10-53	3342	-	Yates	Open Hole: 3293-3342 Casing: 5½" @ 3293 w/350 sx cmt. circ. 2 3/8" Salta lined tbg @ 3195.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Gas Yates Unit 13-1 Operator: Anadarko Production Company	660 FSL & 660 FWL, Unit M Sec. 11, T20S, R33E, NMPM	P & A Water Injection Well	12-5-53	1-10-55 (Converted to WIW 5-5-77)	3507	Plugged back to Surface	Yates	Open Hole: Plugged back to surface. Casing: 5½" 14# @ 3275 cmtd w/50 sx around shoe and 450 sx thru perf @ 2600. Plugging operations circ 565 sx from perf @ 849' 4" liner from 3219 to 3487 cemented w/165 sx. Plugged from top to bottom with one continous plug. Cable Tool Drilled Contractor: Cactus Drlg. Co.
Gas Yates Unit 14-1 Operator: Anadarko Production Company	330 FSL & FEL Unit P Sec. 10, T20S, R33E, NMPM	P & A Water Supply Well	3-15-56 Respud 9-6-73 Recompleted 9-24-73	P & A 9-10-56	3700	Plugged to Surface	Seven Rivers	Open Hole: Plugged back to Surface Casing: 8 5/8" 28# H-40 set @ 1525 with 300 sx, cmt. circ. to surface. 5½" 14# J-55 set @ 3395' with 600 sx. cmt. circ. to surface. Plugged with 1665 sx cement.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Shaffey-Fed. ARC #1 Operator: Arco	660 FNL & 1980 FWL, Unit C Sec. 14, T20S, R33E, NMPM	Gas Producer (Dual) (Morrow currently shut-in, Bone Springs producing)	4-30-62	12-6-62 (BS) 12-31-62 (M)	14948	13800	Bone Springs, Morrow	Perfs: Morrow 13294-302, 13309-317, 13423-429, 13526-528, 13532-543, Bone Springs 9408-14, 9416-18, 9422-24, 9430-34, 9442-50, 9454-57, Casing: 20" @ 1400' w/1900 sxs 13 3/8" @ 3100' w/3500 sxs 9 5/8" @ 9000' w/2620 sxs 7" @ 13813' w/1350 sxs Rotary Tool Drilled
Gas Yates Unit WSW #1 Operator: Anadarko Production Company	1330 FNL & 1330 FWL, Unit F, Sec. 14, T20S, R33E, NMPM	Active Water Supply Well	3-31-81	8-31-81	3830		Seven Rivers Reef	Casing: 10 3/4" 40.5# ST & C, R-3 J-55 set @ 1260'. Cmted w/825 sx, circ 200 sx to pit. 7 5/8" 26.4# N-80 set @ 3100'. Cmted w/690 sx cmt. circ 200 sx to pit 5½" [illegible] J-55 ST & C [illegible] @ 3830 w/top @ 2690'. Cmt w/150 sx circ 20 sx. Perfs: 3660-63, 3674-81, 3696-3700, 3708-11, 3724-27, 3746-49, 3758-62. Rotary Tool Drilled Contractor: Warton Drlg. Co.

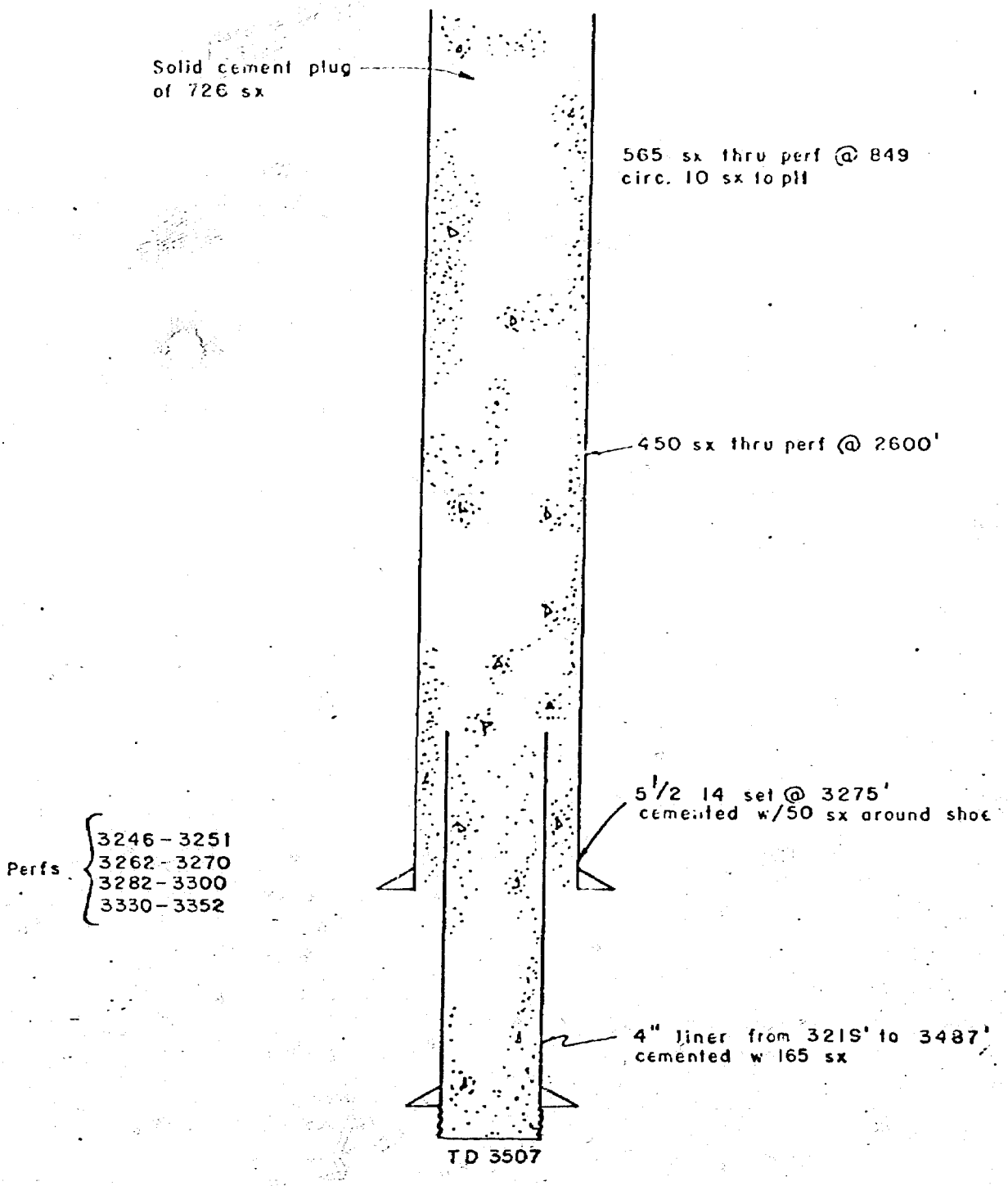
TEAS YATES UNIT

PROPOSED INJECTION WELL 13-2



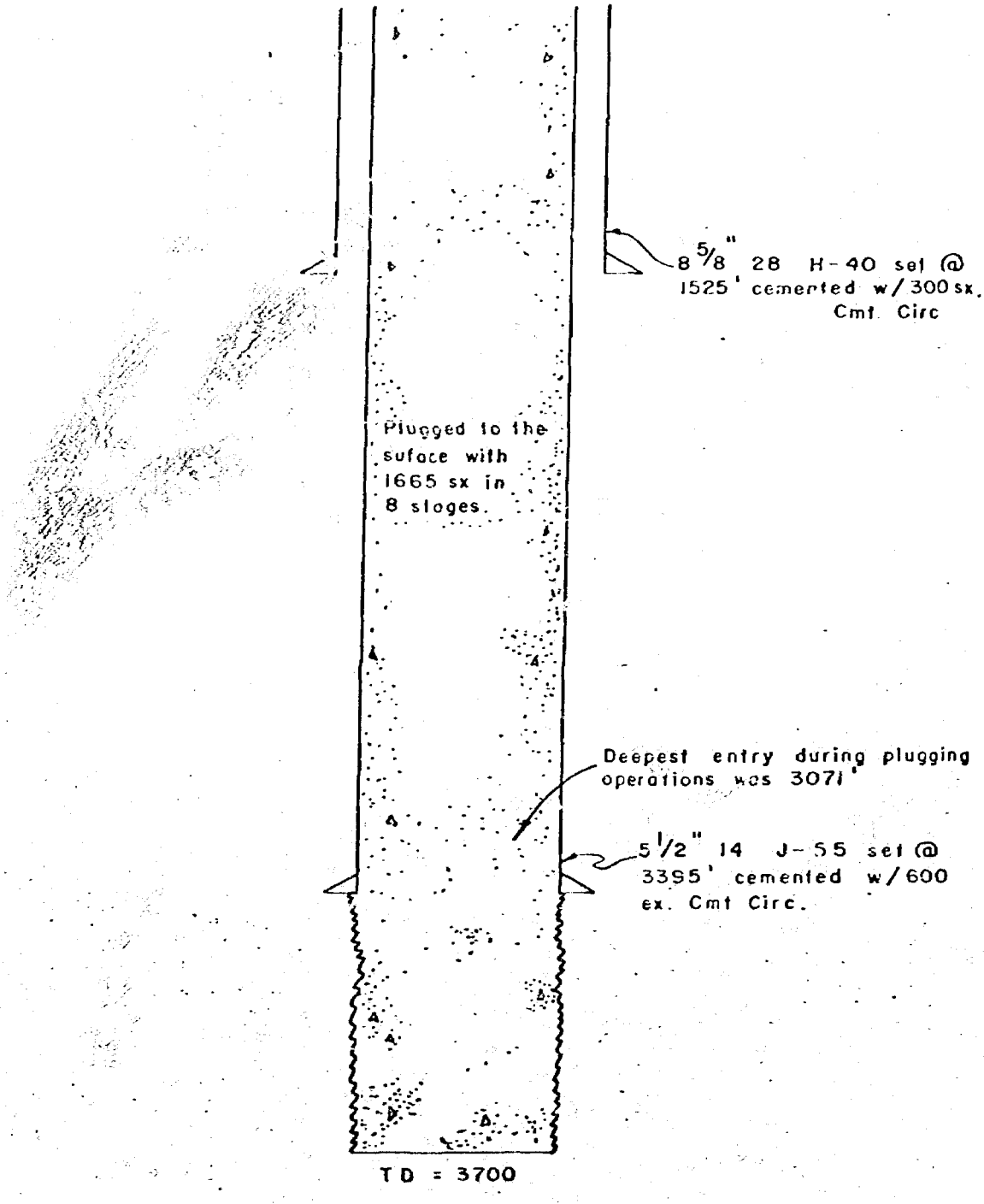
TEAS YATES UNIT 13-1

P & A 10-8-81



TEAS YATES UNIT 14-1

P & A 5-27-81



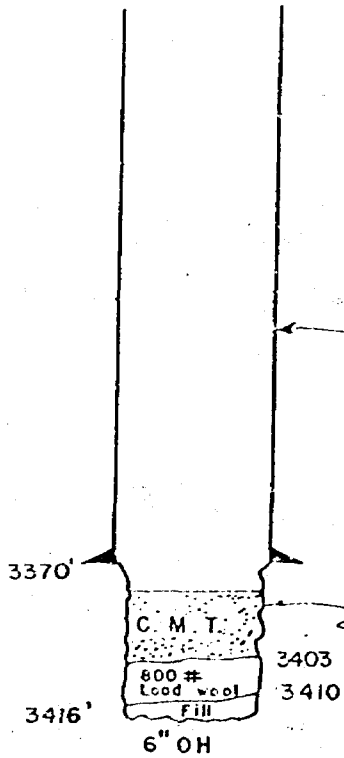
P&A: Dec., 1958
Re-entered 11-16-81

Well Name & Number:

Teas Yates Unit 5-4 (APC)

Location:

2310' FNL, 990' FWL, Unit E
Sec 14, T 20S R 33E



TOC:

Cement Circulated

7" csg

Csg:

7" csg @ 3370' cmtd w/450 sxs @ shoe. Circ. 30 sx

Cleaned Out To 3389' On 11-16-81

TD: 3416'

Perfs:

None

P. O. BOX 1468
MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

Martin Water Laboratories, Inc

709 W. INDIANA
MIDLAND, TEXAS 7970
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 103159
SAMPLE RECEIVED 10-9-81
RESULTS REPORTED 10-9-81

TO: Mr. Mark Fesmire
P.O.Box 2497, Midland, Texas

COMPANY Anadarko Production Company LEASE Teas Yates Unit
FIELD OR POOL Teas
SECTION ___ BLOCK ___ SURVEY ___ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from windmill. 10-9-81
NO. 2
NO. 3
NO. 4
REMARKS: Samples taken by Greg Ogden, Martin Water Labs., Inc.

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0020			
pH When Sampled				
pH When Received	7.1			
Bicarbonate as HCO_3	412			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	60			
Calcium as Ca	10			
Magnesium as Mg	9			
Sodium and/or Potassium	401			
Sulfate as SO_4	274			
Chloride as Cl	220			
Iron as Fe	0.5			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	1,326			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	5.50			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: ~~The undersigned certifies the above to be true and correct to the best of his knowledge and belief.~~

Form No. 3

By _____

Waylan C. Martin, M. A.

1cc: Mr. D. C. Berry, Eunice, NM
2cc: Mr. John English, Euice, NM
2cc: Mr. Tom Kellahan, Kellahan & Kellahan, Santa Fe, NM

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
Amerada EXHIBIT NO. 5
CASE NO. 7677

Dockets Nos. 31-82 and 32-82 are tentatively set for September 29 and October 13, 1982. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING WEDNESDAY-SEPTEMBER 15, 1982

9 A.M. - MORGAN HALL, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for October, 1982, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.

(2) Consideration of the allowable production of gas for October, 1982, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 7638: (Continued and Readvertised)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Cibola Energy Corporation, American Employers Insurance Company and all other interested parties to appear and show cause why the Simms Ranch Well No. 1, located in Unit N, Section 9, the Clyde Berlier Well No. 1, located in Unit K and the Clyde Berlier Well No. 2, located in Unit F, both in Section 21, the Mora Ranch Well No. 3 located in Unit M and the Mora Ranch Well No. 4, located in Unit M, both in Section 5, all in Township 21 North, Range 21 East, Mora County, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 7637: (Continued from August 18, 1982, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit R.A.F. Enterprises, Fireman's Fund Insurance Company and all other interested parties to appear and show cause why the Shaw Well No. 1, located in Unit M, Section 18, Township 4 North, Range 8 East, Torrance County, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 7635: (Continued from September 1, 1982, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit CO_2-In-Action, Travelers Indemnity and all other interested parties to appear and show cause why the Trigg Well No. 3 located in Unit J, Section 25, Township 15 North, Range 28 East, San Miguel County, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 7636: (Continued from September 1, 1982, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit CO_2-In-Action, Travelers Indemnity and all other interested parties to appear and show cause why the Amistad No. 1 located in Unit E of Section 18, and the Amistad No. 2 located in Unit D of Section 7, both in Township 19 North, Range 36 East, Union County, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 7673: Application of Yates Petroleum Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Almost Texas Unit Area, comprising 3,840 acres, more or less, of State and Federal lands in Township 26 South, Range 31 East.

CASE 7664: (Continued from September 1, 1982, Examiner Hearing)

Application of Yates Petroleum Corporation for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Little Cuevo Unit Area, comprising 13,407 acres, more or less, of State and Fee lands in Township 17 South, Range 18 East.

CASE 7674: Application of Trican Energy, Inc. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Javalina Basin Unit Area, comprising 3,840 acres, more or less, of State and Federal lands in Township 25 South, Range 34 East.

CASE 7675: Application of Texaco Inc. for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Justis Blinebry, Justis Tubb-Drinkard, and Justis Devonian production in the wellbore of its G. L. Erwin "A" Federal Well No. 2 located in Unit K, Section 35, Township 24 South, Range 37 East.

Docket No. 29-82

CASE 7676: Application of Tenneco Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Delaware formation in the perforated interval from 4970 feet to 4982 feet in its Jennings Fed. Well No. 3 located In Unit B of Section 14, Township 24 South, Range 32 East.

CASE 677: Application of Anadarko Production Company for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Teas Yates Waterflood Project by converting two wells located in Unit F of Sections 13 and 14, Township 27 South, Range 33 East and drilling three new injection wells at unorthodox locations in Units M of Section 11 and Unit L of Section 13, Township 20 South, Range 33 East, and Unit E of Section 18, Township 20 South, Range 34 East.

CASE 7678: Application of Phillips Petroleum Company for a pressure maintenance project, Lea County, New Mexico. Applicant in the above-styled cause, seeks authority to institute a pressure maintenance project in the Vacuum Grayburg-San Andres Pool by the injection of water into the Grayburg San Andres formation through eight injection wells to be drilled at unorthodox locations in Section 35, Township 17 South, Range 34 East, as follows: 2630 feet from the South line and 1330 feet from the West line; 2630 feet from the South and West lines; 2630 feet from the South line and 1330 feet from the East line; 1310 feet from the South line and 1330 feet from the West line; 1310 feet from the South line and 10 feet from the East line; 10 feet from the South line and 1310 feet from the East line; 1330 feet from the North line and 1310 feet from the West line; and 1330 feet from the North line and 10 feet from the West line. Applicant also proposes two production wells at unorthodox locations in said Section 35 as follows: 1310 feet from the South line and 2630 feet from the East line and 1310 feet from the South and East lines.

CASE 7630: (Continued from September 1, 1982, Examiner Hearing - This Case will be Dismissed)

Application of Ralph Nix for an oil treating plant permit, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant for the purpose of treating and reclaiming sediment oil at a site in the SW/4 NE/4 of Section 18, Township 19 South, Range 26 East.

CASE 7671: (Continued from September 1, 1982, Examiner Hearing)

Application of Texas Eastern Developments, Inc. for an exception to Rule 307, San Juan County, New Mexico. Applicant in the above-styled cause, seeks an exception to Rule 307 of the Division Rules and Regulations to permit it to draw a vacuum on the Shiprock Gallup Oil Pool reservoir through 16 wells in Sections 16 and 17, Township 29 North, Range 18 West. Applicant further seeks an administrative procedure whereby it could extend the proposed vacuum system to include additional wells in the same reservoir.

CASE 7679: Application of C & K Petroleum, Inc. for the amendment of Order No. R-4857-A and for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Division Order No. R-4857-A to provide that the lands pooled by said order shall be the W/2 SE/4 of Section 27, Township 16 South, Range 37 East, dedicated to its Ship 27 Well No. 2 located in Unit O in said Section 27. Applicant further seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the E/2 SE/4 of the aforesaid Section 27, to be dedicated to a well to be drilled in Unit P of said Section 27. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 7680: Application of Unichem International, Inc. for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221 to permit the commercial disposal of produced brine into several unlined surface pits located in Section 11, Township 23 South, Range 29 East.

CASE 7681: Application of Cibola Energy Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of an Ordovician gas well to be drilled 330 feet from the North line and 990 feet from the East line of Section 13, Township 9 South, Range 27 East, the E/2 of said Section 13 to be dedicated to the well.

CASE 7682: Application of Cibola Energy Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Mississippian gas well drilled 330 feet from the North line and 330 feet from the West line of Section 34, Township 11 South, Range 28 East, the W/2 of said Section 34 to be dedicated to the well.

CASE 7683: Application of S & I Oil Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Gallup formation underlying the E/2 SE/4 of Section 12, Township 29 North, Range 15 West, to be dedicated to a well drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 7684: Application of R. E. Lauritsen for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Gallup and Dakota formations underlying the W/2 of Section 11, Township 29 North, Range 15 West, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 7685: Application of Cimarron Energy Corporation for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Pennsylvanian test to be drilled 1980 feet from the South line and 660 feet from the West line of Section 34, Township 22 South, Range 28 East, the S/2 of said Section 34 to be dedicated to the well.

CASES 7528 and 7529: (Continued and Readvertised)

Application of Jack J. Grynberg for compulsory pooling, Chaves County, New Mexico. Applicant, in each of the following two cases, seeks an order pooling all mineral interests down through the Abo formation underlying the lands specified in each case, each to form a standard 160-acre gas spacing and proration unit to be dedicated to a well to be drilled at a standard location thereon. Also to be considered in each case will be the cost of drilling and completing said wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the wells and a charge for risk involved in drilling said wells:

CASE 7528: NW/4 Section 4, Township 5 South, Range 24 East

CASE 7529: NE/4 Section 4, Township 5 South, Range 24 East

(Continued from September 1, 1982, Examiner Hearing)

CASES 7666, 7667, 7668, and 7669: Application of Yates Petroleum Corporation for compulsory pooling, Chaves County, New Mexico. Applicant, in each of the four following cases, seeks an order pooling all mineral interests down through the Abo formation underlying the lands specified in each case, each to form a standard 160-acre gas spacing and proration unit to be dedicated to a well to be drilled at a standard location thereon. Also to be considered in each case will be the cost of drilling and completing said wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the wells and a charge for risk involved in drilling said wells:

CASE 7666: SW/4 Section 3;

CASE 7667: NW/4 Section 4;

CASE 7668: NW/4 Section 14;

All of the above being in Township 5 South, Range 24 East and

CASE 7669: NW/4 Section 2, Township 9 South, Range 25 East.

CASE 7670: (Continued from September 1, 1982, Examiner Hearing)

Application of Yates Petroleum Corporation for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying the N/2 of Section 26, Township 14 South, Range 27 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

Docket No. 29-82

CASE 7652: (Continued from August 18, 1982, Examiner Hearing)

Application of Conoco Inc. for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Cisco formation underlying all of partial Sections 34 and 35, Township 20 1/2 South, Range 23 East, underlying a previously approved 688-acre non-standard proration unit, to be dedicated to a well at a previously approved unorthodox location which is to be re-entered. Also to be considered will be the cost of re-entering said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in re-entering said well.

CASE 7672: (Continued from September 1, 1982, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating, assigning discovery allowable, contracting, and extending certain pools in Chaves, Eddy, Lea and Roosevelt Counties, New Mexico:

(a) CREATE a new pool in Eddy County, New Mexico, classified as an oil pool for Brushy Canyon production and designated as the Brushy Draw-Brushy Canyon Pool. Further, to assign approximately 25,410 barrels of discovery allowable to the discovery well, the J. C. Williamson UCBHWW Federal Well No. 1 located in Unit M of Section 25, Township 26 South, Range 29 East, NMPM. Said pool would comprise:

TOWNSHIP 26 SOUTH, RANGE 29 EAST, NMPM
Section 25: SW/4

(b) CREATE a new pool in Lea County, New Mexico classified as an oil pool for San Andres production and designated as the Hobbs Channel-San Andres Pool. The discovery well is the Bass Enterprises Production Company Humble City Unit Well No. 1 located in Unit D of Section 36, Township 17 South, Range 37 East, NMPM. Said pool would comprise:

TOWNSHIP 17 SOUTH, RANGE 37 EAST, NMPM
Section 36: NW/4

(c) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the Humphreys Mill-Morrow Gas Pool. The discovery well is the Florida Exploration Company Reno Com Well No. 1 located in Unit D of Section 11, Township 25 South, Range 35 East, NMPM. Said pool would comprise:

TOWNSHIP 25 SOUTH, RANGE 35 EAST, NMPM
Section 11: N/2

(d) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Abo production and designated as the Justis-Abo Pool. The discovery well is the Santa Fe Energy Company Carlson B-25 Federal Well No. 3 located in Unit O of Section 25, Township 25 South, Range 37 East, NMPM. Said pool would comprise:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
Section 25: SE/4

(e) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Upper Pennsylvanian production and designated as the McMillan-Upper Pennsylvanian Gas Pool. The discovery well is the Southland Royalty Company Pecos River Federal 20 Com Well No. 1 located in Unit J of Section 20, Township 19 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 19 SOUTH, RANGE 27 EAST, NMPM
Section 20: E/2

(f) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Strawn production and designated as the Mosley Canyon-Strawn Gas Pool. The discovery well is W. A. Moncrief, Jr., Jurnegan State Well No. 1 located in Unit C of Section 8, Township 24 South, Range 25 East, NMPM. Said pool would comprise:

TOWNSHIP 24 SOUTH, RANGE 25 EAST, NMPM
Section 8: N/2

(g) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Tubb production and designated as the West Nadine-Tubb Pool. The discovery well is the Tamarack Petroleum Company, Inc. Kornegay A Well No. 1 located in Unit F of Section 9, Township 20 South, Range 38 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM
Section 9: NW/4

(h) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the Pitchfork Ranch-Morrow Gas Pool. The discovery well is the HNG Oil Company Madera 32 State Com Well No. 1 located in Unit C of Section 32, Township 24 South, Range 34 East, NMPM. Said pool would comprise:

TOWNSHIP 24 SOUTH, RANGE 34 EAST, NMPM
Section 32: N/2

(i) CREATE a new pool in Eddy County, New Mexico, classified as an oil pool for Yeso production and designated as the Seven Rivers-Yeso Pool. The discovery well is Chama Petroleum Corporation Irami Federal Well No. 1 located in Unit N of Section 34, Township 19 South, Range 25 East, NMPM. Said pool would comprise:

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM
Section 34: SW/4

(j) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Abo production and designated as the East Skaggs-Abo Pool. The discovery well is the Texaco Inc. Ch. H. Weir A Well No. 12 located in Unit G of Section 12, Township 20 South, Range 37 East, NMPM. Said pool would comprise:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM
Section 12: NE/4

(k) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Tubb production and designated as the Teague-Tubb Pool. The discovery well is the Alpha Twenty-One Production Company Lea Well No. 2 located in Unit A of Section 17, Township 23 South, Range 37 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM
Section 17: NE/4

(l) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Devonian production and designated as the Townsend-Devonian Pool. The discovery well is the Kimbark Oil and Gas Company New Mexico 1-4 State Com Well No. 1 located in Unit N of Section 4, Township 16 South, Range 35 East, NMPM. Said pool would comprise:

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM
Section 4: Lots 11, 12, 13, and 14

(m) CREATE a new pool in Eddy County, New Mexico, classified as an oil pool for Bone Spring production and designated as the Welch-Bone Spring Pool. The discovery well is the Quanah Petroleum, Inc. Hay B Federal Com Well No. 1 located in Unit K of Section 9, Township 26 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 26 SOUTH, RANGE 27 EAST, NMPM
Section 9: SW/4

(n) CONTRACT the horizontal limits of the Buckeye-Abo Pool in Lea County, New Mexico, by the deletion of the following described area:

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM
Section 3: W/2 NW/4

(o) CONTRACT the horizontal limits of the Vacuum-Abo Reef Pool in Lea County, New Mexico, by the deletion of the following described area:

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM
Section 3: E/2 NW/4

(p) EXTEND the Antelope Sink-Upper Pennsylvanian Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 23 EAST, NMPM
Section 13: N/2
Section 14: N/2

(q) EXTEND the West Arkansas Junction-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 36 EAST, NMPM
Section 20: NW/4

(r) EXTEND the Atoka-Yeso Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM
Section 26: E/2

(s) EXTEND the Bilbrey-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 32 EAST, NMPM
Section 5: NW/4
Section 6: E/2

(t) EXTEND the Bunker Hill-Penrose Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 31 EAST, NMPM
Section 14: N/2 S/2 and NE/4

(u) EXTEND the Cemetery-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 25 EAST, NMPM
Section 3: S/2
Section 4: All

(v) EXTEND the Comanche Stateline Tansill-Yates-Seven Rivers-Queen Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 26 SOUTH, RANGE 36 EAST, NMPM
Section 26: NW/4
Section 27: NE/4 and E/2 NW/4

(w) EXTEND the South Empire-Morrow Gas Pool in Eddy County, New Mexico to include therein:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
Section 35: S/2
Section 36: W/2

(x) EXTEND the South Empire-Wolfcamp Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM
Section 36: E/2 NE/4

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM
Section 31: NW/4 and S/2 NE/4

(y) EXTEND the Forty Niner Ridge-Bone Spring Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM
Section 16: SE/4

(z) EXTEND the Hardy-Tubb Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM
Section 2: Lots 11, 12, 13, 14, and S/2
Section 11: NW/4

(aa) EXTEND the Northeast Lovington-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 37 EAST, NMPM
Section 20: NW/4

(bb) EXTEND the West Milnesand-Pennsylvanian Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 34 EAST, NMPM
Section 19: W/2

(cc) EXTEND the South Peterson-Pennsylvanian Associated Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 5 SOUTH, RANGE 33 EAST, NMPM
Section 30: SE/4
Section 31: N/2 NE/4

TOWNSHIP 6 SOUTH, RANGE 33 EAST, NMPM
Section 15: S/2

(dd) EXTEND the Race Track-San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 10 SOUTH, RANGE 28 EAST, NMPM
Section 18: NE/4 and S/2 SE/4

(ee) EXTEND the Ross Draw-Wolfcamp Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 26 SOUTH, RANGE 30 EAST, NMPM
Section 23: S/2
Section 26: N/2

(ff) EXTEND the West Sand Dunes-Atoka Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM
Section 17: S/2
Section 20: All

(gg) EXTEND the Saunders Permo-Upper Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 33 EAST, NMPM
Section 21: NE/4

DOCKET: COMMISSION HEARING - WEDNESDAY - SEPTEMBER 22, 1982

OIL CONSERVATION COMMISSION-MORGAN HALL - 9 A.M.
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases were continued from the August 26, 1982, Commission Hearing:

CASE 7656: Application of Cities Service Company for determination of reasonable well costs, Lea County, New Mexico. Applicant, in the above-styled cause, pursuant to the provisions of Section 70-2-17 C, NMSA, 1978 Comp., and Paragraph (5) of Division Order No. R-6781, seeks a determination of reasonable well costs for two wells drilled under the provisions of said Order No. R-6781 by Doyle Hartman on lands pooled by said order.

CASE 7657: Application of Harvey E. Yates Company for non-rescission of Order No. R-6873, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the non-rescission of Order No. R-6873, which order pooled certain lands to be dedicated to a proposed Ordovician test well to be drilled thereon, being the W/2 of Section 18, Township 9 South, Range 27 East. Said order provided that should the unit well not be drilled to completion, or abandonment, within 120 days after commencement thereof, operator shall appear and show cause why the pooling order should not be rescinded.

CASE 7658: (Readvertised)

Application of Harvey E. Yates Company for a dual completion and downhole commingling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Seymour State No. 1 located in Section 18, Township 9 South, Range 27 East, in such a manner that Abo perforations from 4912 feet to 4929 feet would be commingled with Upper Atoka peforations from 5926 feet to 5952 feet and the aforesaid intervals dually completed with Lower Atoka perforations from 6008 feet to 6048 feet and produced through parallel strings of tubing.

P. O. BOX 1468
MONAHANS, TEXAS 79756
PHONE 943-3234 OR 563-1040

Martin Water Laboratories, Inc

709 W. INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 108159
SAMPLE RECEIVED 10-9-81
RESULTS REPORTED 10-9-81

TO: Mr. Mark Fesmire
P.O.Box 2497, Midland, Texas

COMPANY Amaderko Production Company LEASE Teas Yates Unit
FIELD OR POOL Teas
SECTION ___ BLOCK ___ SURVEY ___ COUNTY Lea STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Raw water - taken from windmill. 10-9-81
NO. 2
NO. 3
NO. 4
REMARKS: Samples taken by Greg Ogden, Martin Water Labs., Inc.

CHEMICAL AND PHYSICAL PROPERTIES

	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0020			
pH When Sampled				
pH When Received	7.1			
Bicarbonate as HCO_3	412			
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	60			
Calcium as Ca	10			
Magnesium as Mg	9			
Sodium and/or Potassium	401			
Sulfate as SO_4	274			
Chloride as Cl	220			
Iron as Fe	0.5			
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	1,326			
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0			
Resistivity, ohms/m at 77° F.	5.50			
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks: The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By _____
Waylan C. Martin, M. A.

1cc: Mr. D. C. Berry, Eunice, NM
2cc: Mr. John English, Eunice, NM
2cc: Mr. Tom Kellahan, Kellahan & Kellahan, Santa Fe, NM

This is the information for Teas Yates Well

1-2

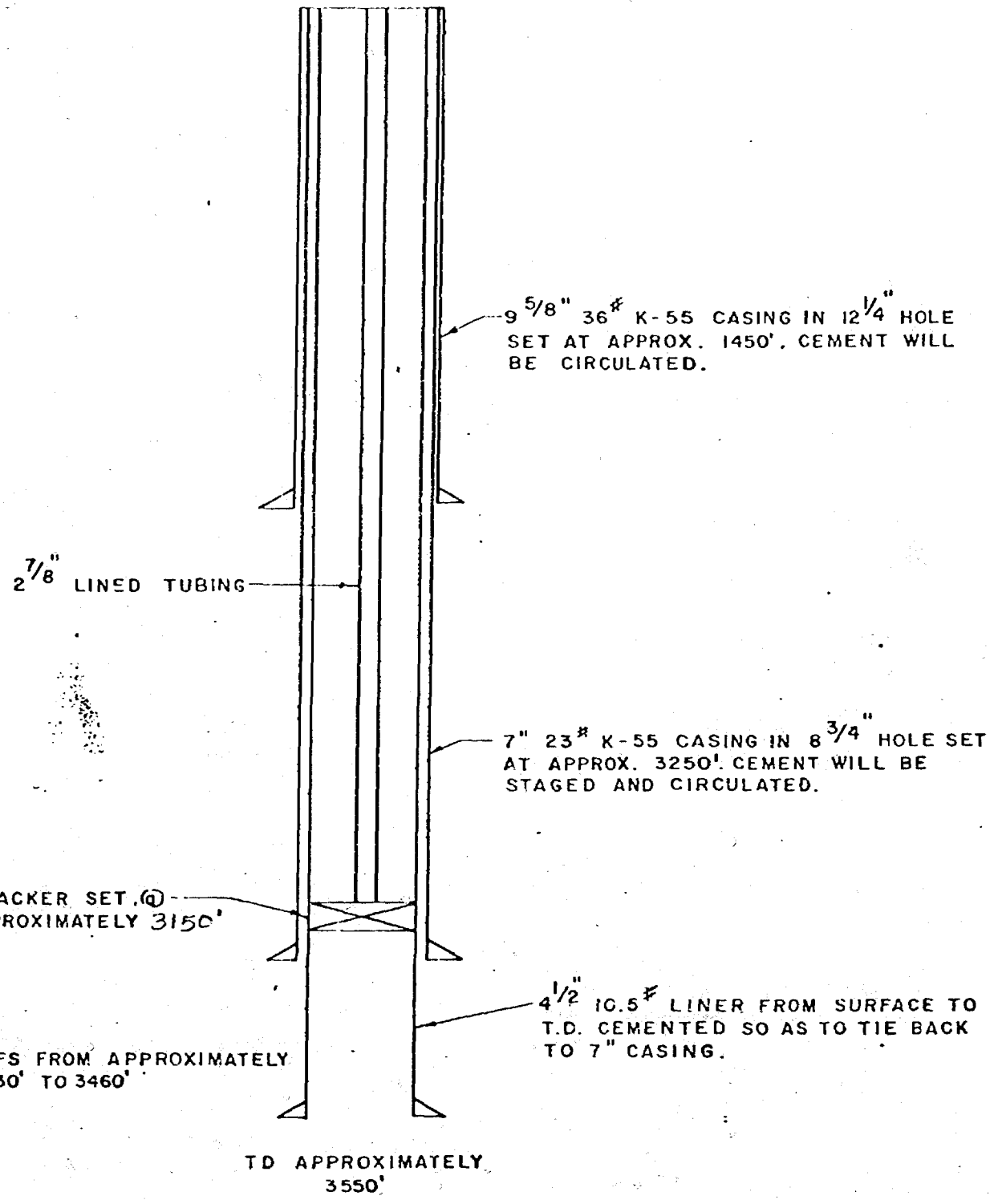
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 3-2 Operator: Anadarko Production Company	2310 FSL & 1980 FEL Unit K Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-31-57 TA 9-25-58 (Recompleted: 10-3-74)	4-1-58	3543	3478	Yates	**Perfs:** 3335-3350, 3361-3366, 3385-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. **Casing:** 8 5/8" 32# Lapweld set @ 1001' and cemented w/255 sx (100 sx circ. to pit). 5½" 14# J-55 set @ 3491 and cemented w/75 sx (top @ 3110 by survey). Cable Tool Drilled Contractor: Roach & Shepard
Teas Yates Unit 3-3 Operator: Anadarko Production Company	1815 FNL & 990 FEL Unit H Sec. 13, T20S, R33E, NMPM	Active Oil Well	1-7-58	2-25-58	3499	-	Yates	**Open Hole:** 3464-3479 **Perfs:** 3302-11, 3316-20, 3324-34, 3342-46, 3353-57, 3362-76, 3388-3406, 3436-44. **Casing:** 8 5/8" set @ 997 cemented w/400 sx. cmt. circ. 5½" set @ 3464 cemented w/500 sx. Survey showed cement to within 100' of surface, dumped 15 sx to bring cement to surface. Cable Tool Drilled Contractor: Roach & Shepard

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Wallen Federal #6 Operator: Wallen Production Company	2310 FNL & 2310 FWL Unit F Sec. 18, T20S, R34E, NMPM	Active Oil Well	12-9-72	6-18-73	3612		Yates	Perfs: 3427-3538 Casing: 9 5/8" set @ 1500' cemented w/500 sx. cmt. circ. 7" set @ 3381' w/330 sx 4½" liner from 311.2 to 3612 cemented w/50 sx. Contractor: Cactus Drlg Co.
Texas Yates Unit 1-I Operator: Anadarko Production Company	1980 FNL & 660 FNL Unit E Sec. 18, T20S, R34E, NMPM	Water Injection Well	8-14-58 (convert to water injection well 5-15-75)	9-5-58	3525	-	Yates	Open Hole: 3267-3525 Casing: 8 5/8" 24# J-55 set @ 1514 cemented w/250 sx. cmt. circ. 5½" 14# J-55 set @ 3267 cemented w/375 sx. cmt. circ. Rotary Tool Drilled Contractor: H. P. Holmes

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Wallen Federal #8 Operator: Wallen Production Company	2310 FSL & 2310 FWL Unit K Sec. 18, T20S, R34E, NMPM Lea County, New Mexico	P & A (Junked before Production)	7-16-75	Junked P & A 10-7-75	3556		Yates	Junked and Abandoned Casing: 16" 32# cemented w/380 sx cmt. circ. 7" 24# set @ 3300 w/1150 sx cmt. circ. 4½" 10.5# liner from 2981 to 3556 cemented w/100 sx. Cable Tool Drilled Contractor: N/A
Wallen Federal #8X Operator: Wallen Production Company	2310 FSL & 2295 FWL Unit K Sec. 18, T20S, R34E, NMPM	Producing Oil Well	10-18-75	3-7-76	3562		Yates	Perfs: 3410-3516 Casing: 16" set @ 100' cemented w/380 sx cmt circulated. 7" set @ 3258 w/1150 sx cmt. circ. 4½" liner from 2950'-3562' cemented w/60 sx. Cable Tool Drilled Contractor: N/A

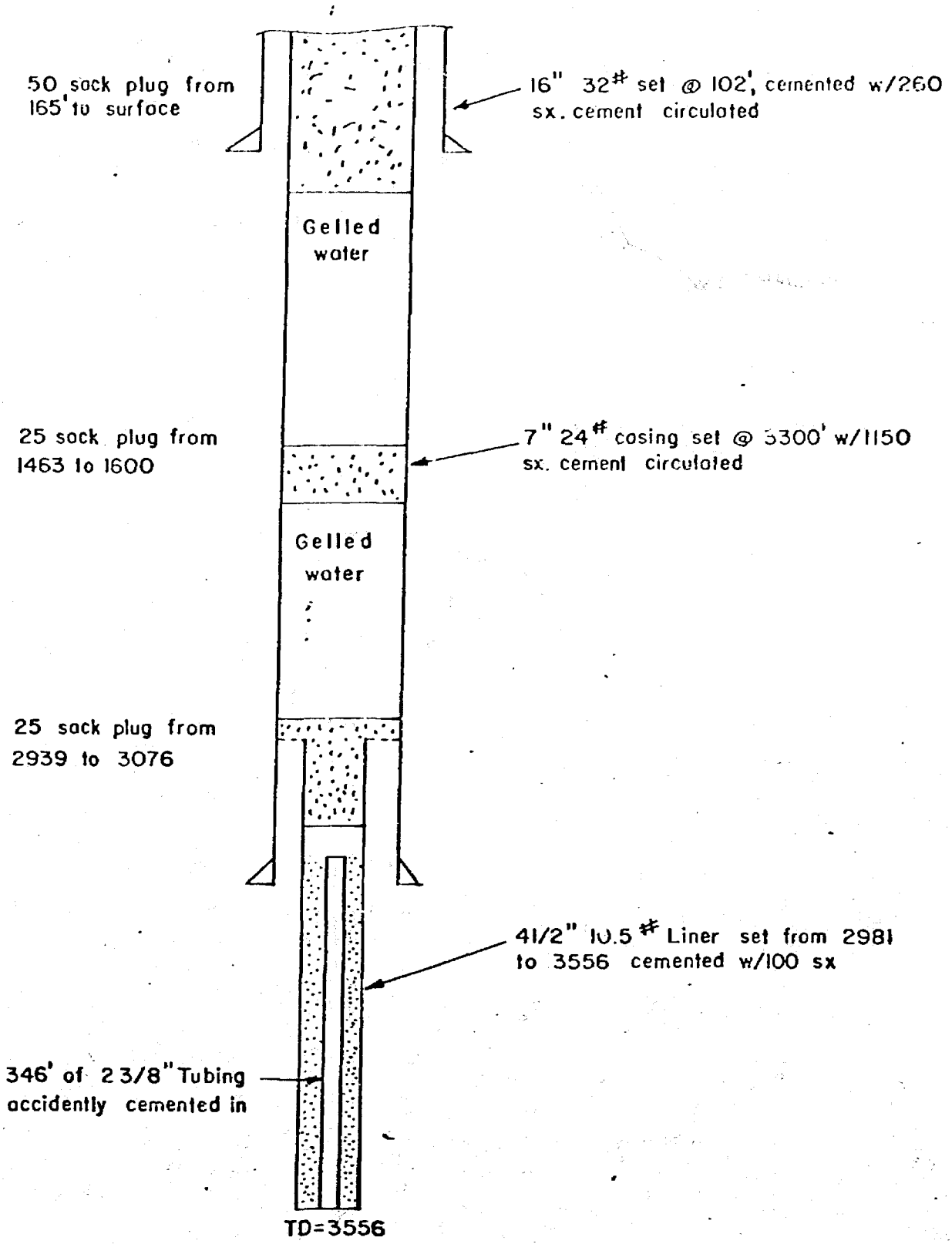
TEAS YATES UNIT

PROPOSED INJECTION WELL 1-2



WALLEN FEDERAL #8

P & A 10-7-75



This is the information for Teas Yates Well

2-1

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 2-2 Operator: Anadarko Production Company	660 FNL & 330 FWL Unit D, Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-25-54 (Converted 10-26-54)	11-21-54	3359 DDTD 3535		Yates	Open Hole: 3325-3535 Casing: 5½" set @ 3325 cemented w/ 200 sx around shoe and 200 sx thru perf @ 1410. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 3-2 Operator: Anadarko Production Company	2310 FSL & 1980 FEL Unit K Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-31-57 TA 9-25-58 (Recompleted: 10-3-74)	4-1-58	3543	3478	Yates	Perfs: 3335-3350, 3361-3366, 3386-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. Casing: 8 5/8" 32# Lapweld set @ 1001' and cemented w/255 sx (100 sx circ. to pit). 5½" 14# J-55 set @ 3491 and cemented w/75 sx (top @ 3110 by survey). Cable Tool Drilled Contractor: Roach & Shepard

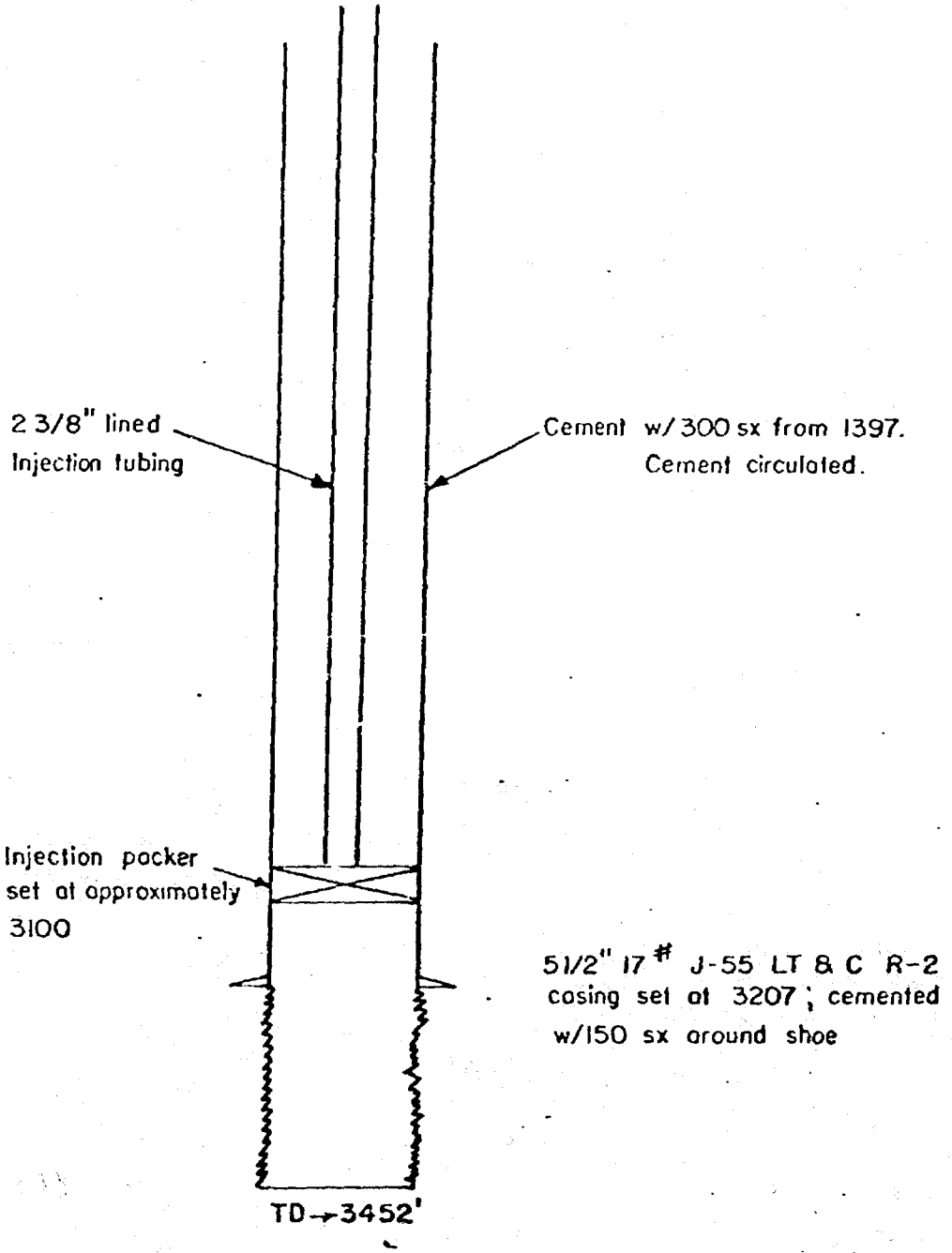
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 3-3 Operator: Anadarko Production Company	1815 FNL & 990 FEL Unit H Sec. 13, T20S, R33E, NMPM	Active Oil Well	1-7-58	2-25-58	3499	-	Yates —	Open Hole: 3464-3499 Perfs: 3302-11, 3316-20, 3324-34, 3342-46, 3353-57, 3362-76, 3388-3406, 3436-44 Casing: 8 5/8" set @ 997 cemented w/400 sx. (Cmt. Circ.) 5½" set @ 3464 cemented w/ 500 sx. Survey showed cement to within 100' of surface, dumped 15 sx to bring cement to surface. Cable Tool Drilled Contractor: Roach & Shepard
Teas Yates Unit 3-4 Operator: Anadarko Production Company	990 FNL & 1650 FEL Unit B Sec. 13, T20S, R33E, NMPM	Water Injection Well	11-13-58 Re-entered 7-22-74 Re-completed as injection well 2-26-75	P & A 12-14-58	3536	3506	Yates	Perfs: 3306-11, 3314-20, 3326-34, 3340-46, 3360-67, 3373-91, 3399-3406, 3469-74, 3478-84. Casing: 8 5/8" 24# set @ 990' cemented w/525 sx cmt. circ. 4½" 10.5# J-55 set @ 3511 with a D. V. tool @ 2813 cemented w/880 sx. TOC @ 300' by survey. Orig. Cable Tool Drilled Re-entry by Rotary Tools Contractor: Cactus Drlg, Corp.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 4-1 Operator: Anadarko Production Company	1980 FNL & 1980 FEL Unit G Sec. 13, T20S, R33E, NMPM	Active Oil Well	7-21-57	3-30-57	3389 DDTD 3482	3426	Yates	Open Hole: 3369 to 3426 Perfs: 3292 to 3328, 3346 to 3364 Casing: 5½" 14# & 15½# J-55 set @ 3369 cemented w/620 sx around shoe and 375 sx thru cellar. Cemented to surface. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 8-1 Operator: Anadarko Production Company	1980 FNL & 660 FWL Unit E Sec. 13, T20S, R33E, NMPM	Oil Producer (P & A)	2-27-51 P & A 7-56	3-29-51	3338	3325	Yates	Perfs: 1385-86 (squeeze perf) Open Hole: 3178 to 3325 Casing: 7" set @ 3178 cemented w/100 sx, 200 sx squeezed @ 1385-86. Cable Tool Drilled Contractor: Spartan Drlg, Co. See plugging diagram.

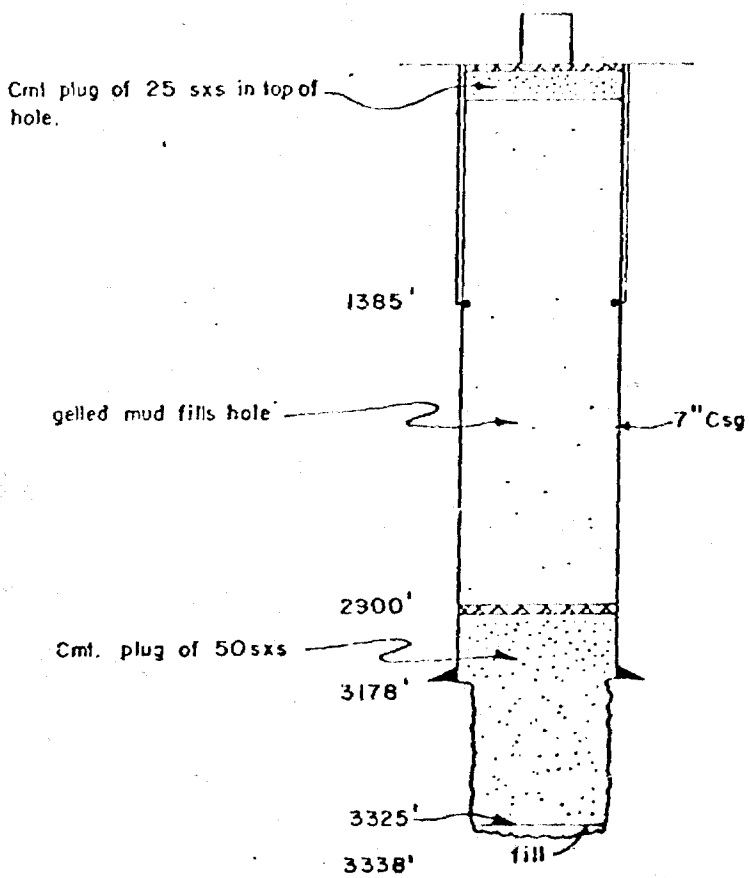
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded Completed	Depth TD PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 8-2 Operator: Anadarko Production Company	1980 FNL & 990 FWL Unit E Sec. 13, T20S, R33E, NMPM	Active Oil Producer (replacement for 8-1)	5-21-56 7-14-56 (recompleted 10-27-77)	3328 DDTD 3410 -	Yates	Open Hole: 3252 to 3410 Casing: 8 5/8" set @ 1500' w/450 sx, cmt circulated. 5½" set @ 3252 w/175 sx. Cable Tool Drilled Contractor: Thomas Drlg. Co.

TEAS YATES UNIT 2-1

PROPOSED CONVERSION TO INJECTION



P & A: July, 1956



Well Name & Number:

Teas Yates Unit 8-1 (APC)

Location:

1980' FNL, 660' FWL, Unit E
Sec 13, T20S R33E

TOC:

200 sxs thru perf @ 1385'

Csg:

7" csg @ 3178' cmtd w/100 sxs @ shoe.

TD: 3338'

Perfs:

Squeeze perf from 1385'-86'

This is the information for Teas Yates Well

5-3

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Completed	Depth TD	PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 5-1 Operator: Anadarko Production Company	660 FNL & 660 FWL, Unit D, Sec. 14, T20S, R33E, NMPM, Lea County, New Mexico	Oil Production P & A	8-26-53	9-30-53 (P & A 2-21-75)	3388	3266	Yates Seven Rivers	Open Hole: 3373-3385 Casing: 5½" set @ 3250' w/50 sacks around shoe plus 370 sx thru a perf @ 1500. Pulled tbg and filled with cement to surface to P & A. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 5-4 Operator: Anadarko Production Company	2310 FNL & 990 FWL, Unit E, Sec. 14, T20S, R33E, NMPM	Oil Producer P & A then re-entered 11-16-81 Currently waiting on recompletion	12-24-53	1-22-54 (P & A 12-58 re-entered 11-16-81)	3416	3389	Yates Seven Rivers	Open Hole: 3370-3389 Casing: 7" set @ 3370, cemented w/ 450 sx, circ 30 sxs to pit. Cable Tool Drilled Contractor: J. C. Clower
Mahaffey-Fed. ARC #1 Operator: Arco	660 FNL & 1980 FWL, Unit C, Sec. 14, T20S, R33E, NMPM	Gas Producer (Dual) (Morrow currently shut-in, Bone Springs producing)	4-30-62	12-6-62 (BS) 12-31-62 (M)	14948	13800	Bone Springs, Morrow	Perfs: Morrow 13,294-302, 13,309-317, 13,423-429, 13,526-528, 13,532-543, Bone Springs 9,408-14, 9,416-18, 9,422-24, 9,430-34, 9,442-50, 9,454-57. Casing: 20" @ 1400' w/1900 sxs 13 3/8" @ 3100' w/3500 sxs 9 5/8" @ 9000' w/2620 sxs 7" @ 13813' w/1350 sxs Rotary Tool Drilled

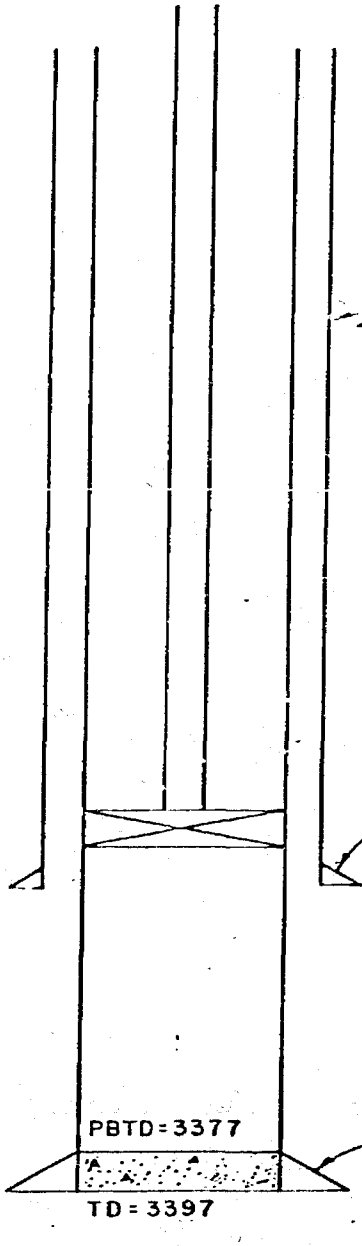
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 5-2 Operator: Anadarko Production Company	660 FNL & 1650 FWL, Unit C, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	10-4-53	10-29-53 (Recompleted 8-30-56)	3278 deepened to 3392	3370	Yates Seven Rivers	Open Hole: 3225-3392 Casing: 7" @ 3240 cemented w/50 sx around shoe and 420 sxs from 1000'. 2" tbg at 3286. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 5-5 Operator: Anadarko Production Company	990 FNL & 990 FWL, Unit D, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	7-9-74	9-15-74	3385	3265	Yates Seven Rivers	Perfs: 3137-3250 Casing: 9 5/8" @ 1420 cemented w/560 sx (circulated). 7" @ 3085 w/420 sx 5½" liner w/top @ 2943 & bottom @ 3375 cemented w/50 sxs 2 3/8" tbg @ 3106. Rotary Tool Drilled Contractor: Cactus Drlg. Co.
Teas Yates 6-1 Operator: Anadarko Production Company	990 FSL & 2310 FWL, Unit L, Sec. 14, T20S, R33E, NMPM	Active Water Injection Well	8-1-65	10-28-65 (Converted 5-3-72)	3428	3418	Yates	Perfs: 3236-40, 3244-47, 3252-56 Casing: 8 5/8" @ 950 cemented w/ 300 sx. 4½" @ 3426 cemented w/523 sx. 2" Salta lined injection tbg @ 3095 Rotary Tool Drilled Contractor: N/A

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 7-1 Operator: Anadarko Production Company	2310 FSL & 1960 FWL, Unit K, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	2-26-54	3-10-54 (Recompleted June 1977)	3324 DDTD 3420		Yates Seven Rivers	Perfs: 3180-97, 3210-14, 3227-59 Open Hole: 3280-3420 Casing: 7" @ 3280 cemented w/100 sx + 310 sxs @ 1000, 2" tbg @ 3275 Cable Tool Drilled Contractor: J. C. Clower
Texas Yates Unit 9-1 Operator: Anadarko Production Company	990 FSL & 2310 FWL, Unit N, Sec. 14, T20S, R33E, NMPM	Water Injection Well	3-22-54	4-20-54 (converted 3-6-72)	3338	3338	Yates Seven Rivers	Perfs: 3267-71, 3275-86 Open Hole: 3294-3338 Casing: 7" @ 3290 w/420 sxs, 2" Salta lined tbg @ 3204 Cable Tool Drilled Contractor: J. C. Clower
Texas Yates Unit 10-2 Operator: Anadarko Production Company	1650 FNL & 2310 FEL, Unit G, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	2-13-54	3-18-54 (recompleted 5-6-77)	3330 DDTD 3394		Yates —	Perfs: 3228-3394 Open Hole: 3202-24 Casing: 5½ @ 3228 w/100 sxs around shoe and 150 sxs @ 1368 Cable Tool Drilled Contractor: N/a

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded Completed	Depth TD PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 11-1 Operator: Anadarko Production Company	990 FNL & 2310 FEL, Unit B, Sec. 14, T20S, R33E, NMPM	Water Injection Well	12-19-54 1-28-55 (converted 5-6-72)	3319 3288	Yates	Open Hole: 3215-3288 Casing: 5½" @ 3215 w/435 sx cmt. cmt. circ to surface, 2" Salta lined tbg @ 3145. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 12-1 Operator: Anadarko Production Company	660 FNL & 660 FEL, Unit A, Sec. 15, T20S, R33E, NMPM	Water Injection Well	6-25-53 8-10-53 (Converted 5-3-72)	3342 -	Yates	Open Hole: 3293-3342 Casing: 5½" @ 3293 w/350 sx cmt. circ. 2 3/8" Salta lined tbg @ 3195.
Teas Yates Unit 14-2 Operator: Anadarko Production Company	2310 FSL & 2310 FEL, Unit J, Sec. 14, T20S, R33E, NMPM	Active Producing Well	(P & A 12-31-54) (Re-spud 6-5-74) (recomplete 4-22-75)	3455	Yates	Casing: 10 3/4" @ 513 w/456 sx, cmt circ. 4½" @ 3455 w/765 sx, cmt circ. Perfs: 3212-3280, 3316-3334 Drilled with Cable Tools, re-entered with Rotary Tools.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Comple	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit WSW #1 Operator: Anadarko Production Company	1330 FNL & 1330 FWL, Unit F, Sec. 14, T20S, R33E, NMPM	Active Water Supply Well	3-31-81	8-31-81	3830		Seven Rivers Reef	Casing: 10 3/4" 40.5# St & C, R-3 J-55 set @ 1260'. Cmted w/825 sx, circ 200 sx to pit. 7 5/8" 26.4# N-80 set @ 3100'. Cmted w/690 sx cmt. circ 200 sx to pit. 5½" 15.5# K-55 ST & C Liner set @ 3830 w/top @ 2690'. Cmt w/150 sx circ 20 sx. Perfs: 3660-63, 3674-81, 3696-3700, 3708-11, 3724-27, 3746-49, 3758-62. Rotary Tool Drilled Contractor: W arton Drlg. Co.
Teas Yates Unit 10-3	2265 FNL & 1425 FEL, Unit G, Sec. 14, T20S, R33E, NMPM	Water Injection	1-10-82	4-18-82	3426		Yates —	Perfs: 3222 to 3252, 3258-3264, 3330-50. Casing: 9 5/8" 36# K-55 ST & C set @ 1334 and cemented w/620 sx around shoe. Cement circ. 7" 23# K-55 set @ 3210 and cemented w/ 920 sx around shoe. Cement circ. 4½" 10.5# J and K-55 set @ 3426 cemented w/55 sx around shoe. TOC @ 2770 by survey. Contractor: W arton Drlg. Co.

TEAS YATES UNIT 5-3
PROPOSED INJECTION WELL



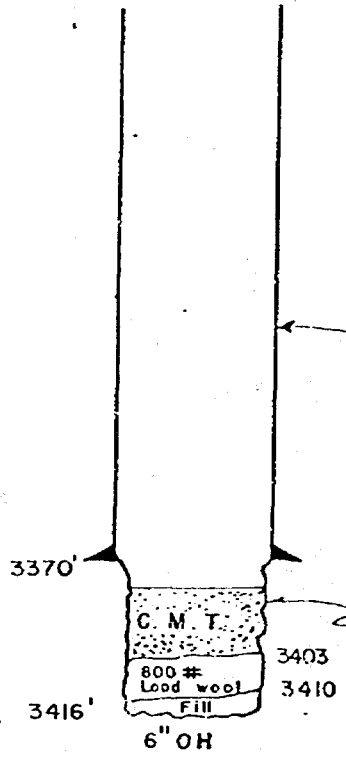
P & A: Dec, 1958
Re-entered 11-16-81

Well Name & Number:

Texas Yates Unit 5-4 (APC)

Location:

2310' FNL, 990' FWL, Unit E
Sec. 14, T 20S R 33E



TOC:

Cement Circulated

7" csg

Csg:

7" csg @ 3370' cmtd w/450 sxs @ shoe. Circ. 30 sx

Cleaned Out To 3389'
On 11-16-81

TD: 3416'

Perfs:

None

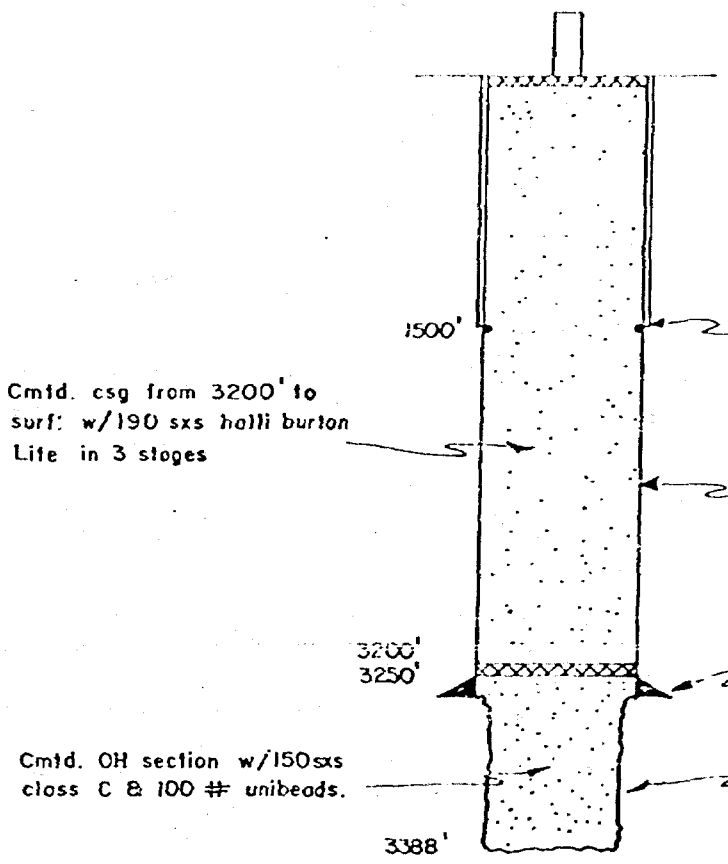
P & A : 2-21-75

Well Name & Number :

Teos Yates Unit 5-1 (APC)

Location :

660' FNL , 660' FWL , Unit D
Sec. 14 , T20S R33E



TOC:

370 sxs thru. perf. @ 1500' to surface.

5 1/2" Csg.

Csg :

5 1/2" Csg. @ 3250' Cmtd. w/50 sxs @ shoe

4 3/4" hole

TD: 3388'

Perfs :

Squeeze perf @ 1500'

This is the information for Teas Yates Well

8-4

Name, Number ator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Yates Unit 8-1 ator: Anadarko uction Company	1980 FNL & 660 FWL, Unit E, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer (P & A)	2-27-51	3-29-51 (P & A 7-56)	3338	3325	Yates	Perfs: 1385-86 (squeezed perfs) Open Hole completion: 3178 to 3325. Casing: 7" set @ 3178 cemented w/100 sx, 200 sx squeezed @ 1385-1386. Cable Tool Drilled. Contractor: Spartan Drlg. Co.
Yates Unit 8-2 ator: Anadarko uction Company	1980 FNL & 990 FWL, Unit E, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer active (replacement for 8-1)	5-21-56	7-14-56 (recompleted 10-27-77)	3328 deepened to 3410		Yates	Open Hole completion: 3252 to 3410. Casing: 8 5/8" set @ 1500' w/ 450 sx circulated cmt. 5½" set @ 3252 w/175 sx. 2 7/8" tbg @ 3291. 4 3/4" open hole 3252 to 3410. Cable Tool Drilled. Contractor: Thomas Drlg. Co.
Yates Unit 15-1 ator: Anadarko uction Company	1980 FSL & 660 FEL, Unit I, Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Well		6-18-51 (P & A 6-18-51) (re-entered 7-12-74 converted and completed 2-38-75)	3535	3523	Yates	Perfs: 3261-76, 3282-99, 3319-25, 3334-43, 3348-58, 3380-86, 3392-3400. Casing: 10 3/4" set @ 510' w/ 635 sx cement. 4½ set @ 3517 w/1260 sxs (150 circ to pit) 2 3/8" salta lined tbg @ 3191. Cable Tool Drilled, Rotary Tools used on re-entry. Contractor: N/A
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Name, Number rator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
s Yates Unit 2-1 rator: Anadarko luction Company	1980 FNL & 1980 FWL, Unit F Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Acitve	2-27-52	4-14-52	3209 drilled deeper to 3350 then to 3452		Yates	Open Hole completion 3209 to 3452. Casing: 5½" 14# set @ 3209 cemented w/150 sx around shoe and 300 sx thru D. V. Tool @ 1397 (circ to surface). Cable Tool Drilled.
s Yates Unit 10-1 rator: Anadarko luction Company	1650 FNL & 330 FEL, Unit H, Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Active	6-28-52	8-15-52	3209 drilled deeper to 3341 then to 3428		Yates	Open Hole completion 3209 to 3428. Casing: 5½" 15# set @ 3209 cemented w/150 sx around shoe and 300 sx thru D. V. Tool @ approximately 1400. Cable Tool Drilled.
s Yates Unit 3-2 rator: Anadarko luction Company	2310 FSL & 1980 FEL, Unit K Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Active	10-31-57	4-1-58 (TA 9-25-58) (recompleted 10-3-74)	3543	3478	Yates —	Perfs: 3335-3350, 3361-3366, 3386-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. Casing: 8 5/8" 32# Lapweld set @ 1001' and cemented with 225 sx (100 sx circ to pit). 5½" 14# J-55 set @ 3491 and cemented with 75 sx (top @ 3110 by survey). Cable Tool Drilled. Contractor: Roach and Shepard

Name, Number and Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Yates Unit 2-2 Operator: Anadarko Production Company	660 FNL & 330 FWL, Unit D, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Active	10-25-54	11-21-54 (converted: 10-26-74)	3359 DDTD 3535		Yates	Open Hole: 3325-3535 Casing: 5½" set @ 3325 cemented w/200 sx around shoe and 200 sx thru perf @ 1410. Cable Tool Drilled. Contractor: J. C. Clower
Yates Unit 4-1 Operator: Anadarko Production Company	1980 FNL & 1980 FEL, Unit G Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Active	7-21-57	8-30-57	3389 DDTD 3482	PBTD 3425	Yates	Open Hole: 3369 to 3426 Perfs: 3292 to 3328 and 3346 to 3364. Casing: 5½" 14# & 15½ J-55 set @ 3369 cemented w/620 sx around shoe and 375 sx through cellar. Cemented to surface. Cable Tool Drilled. Contractor: J. C. Clower
Yates Unit 10-3 Operator: Anadarko Production Company	2265 FNL & 1425 FEL, Unit G Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection	1-10-82	4-18-82	3426		Yates	Perfs: 3222 to 3252, 3258 to 3264, 3270 to 3310, 3330 to 3350. Casing: 9 5/8" 36# K-55 ST & C set @ 1334 and cemented w/620 sx around shoe. Cement circ. 7" 23# K-55 set @ 3210 and cemented w/ 920 sx around shoe, cement circ. 4½" 10.5# J and K-55 set @ 3426 cemented w/55 sx around shoe. Top of cement @ 2770 by survey.
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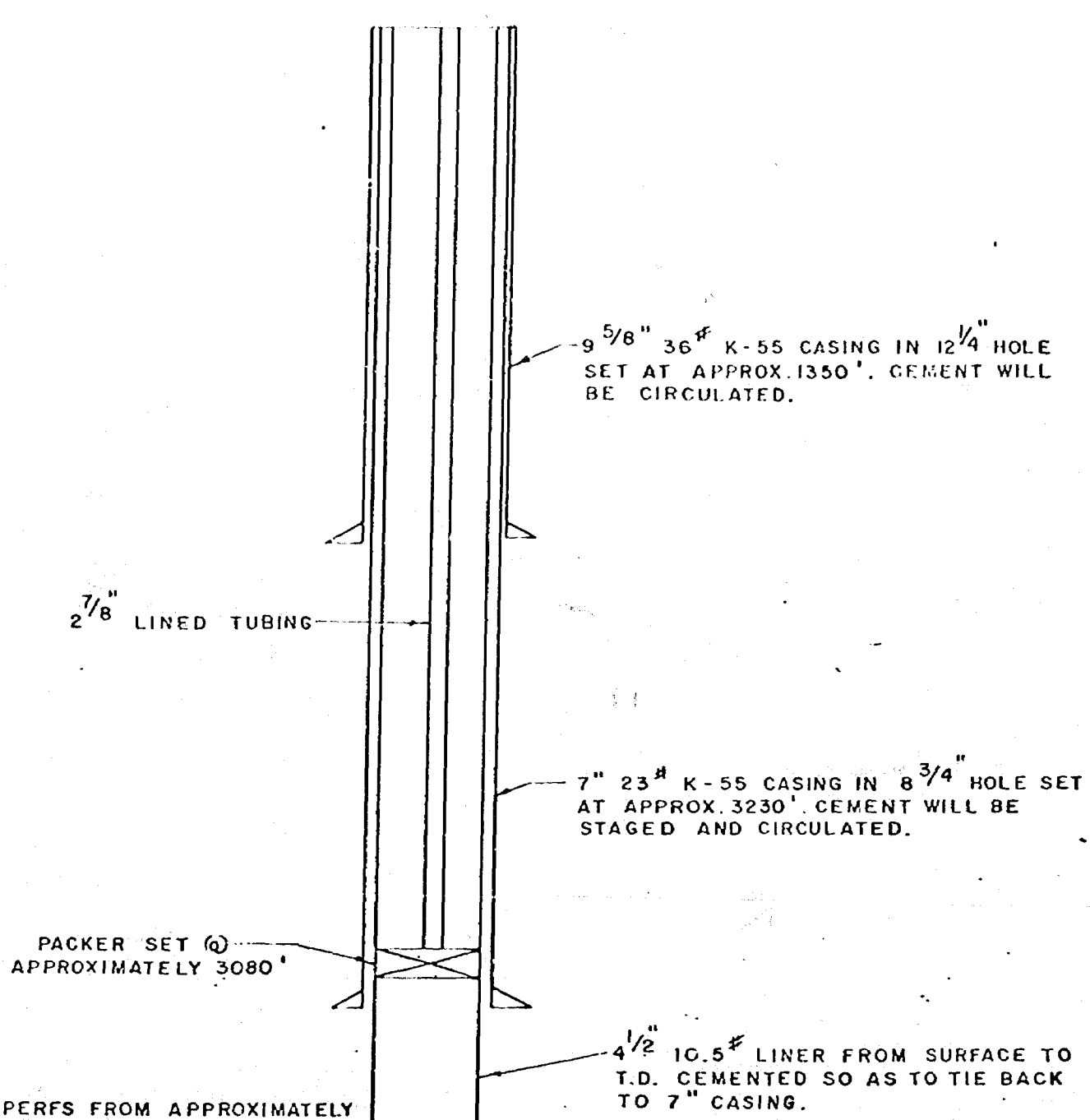
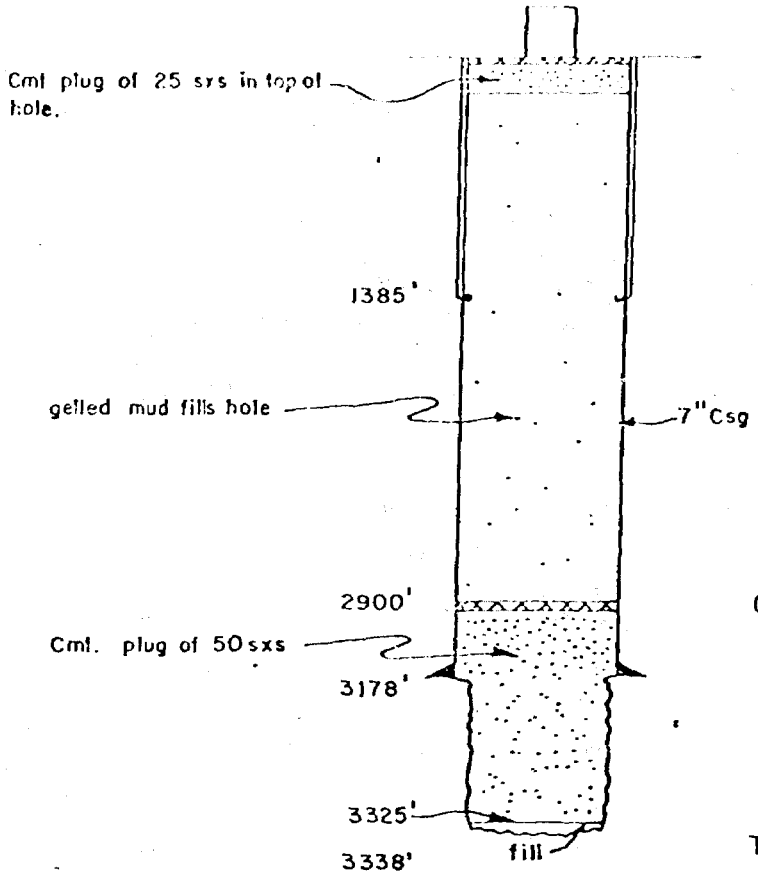
TEAS YATES UNIT

PROPOSED INJECTION WELL 8-4



P & A: July, 1956



Well Name & Number:

Teas Yates Unit 8-1 (APC)

Location:

1980'FNL, 660'FWL, Unit E
Sec 13, T20S R33E

TOC:

200 sxs thru perf. @ 1385'

Csg:

7" csg @ 3178' cmtd w/100 sxs @ shoe.

TD: 3338'

Perfs:

Squeeze perf from 1385'-86'

This is the information for Teas Yates Well

13-2

WELLS WITHIN A ½ MILE RADIUS OF PROPOSED WIW

Exhibit No. 13-2

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
as Yates Unit 5-1 erator: Anadarko oduction Company	660 FNL & 660 FWL, Unit D Sec. 14, T20S, R33E, NMPM Lea County, New Mexico	Oil Production P & A	8-26-53 (P & A 2-21-75)	9-30-53	3388	3266	Yates Seven Rivers	Open Hole: 3373-3385 Casing: 5½" set @ 3250' w/50 sacks around shoe plus 370 sx thru a perf @ 1500. Pulled tbg and filled with cmt to surface to P & A. Cable Tool Drilled Contractor: J. C. Clower
as Yates Unit 5-2 erator: Anadarko oduction Company	660 FNL & 1650 FWL, Unit C Sec. 14, T20S, R33E, NMPM	Active Oil Producer	10-4-53 (Recompleted 8-30-56)	10-29-53	3278 deepened to 3392	3370	Yates Seven Rivers	Open Hole: 3225-3392 Casing: 7" @ 3240 cemented w/50 sx around shoe and 420 sxs from 1000'. 2" tbg @ 3286. Cable Tool Drilled Contractor: J. C. Clower
as Yates Unit 5-3 erator: Anadarko oduction Company	1980 FNL & 1650 FWL Unit F, Sec. 14, T20S, R33E, NMPM	Active Oil Producing Well (will be converted to injection)	11-12-53	12-16-53	3397	3377	Yates Seven Rivers	Perfs: 3150-70, 3210-35, 3265-85, 3332-40, 3356-64, 3367-71. Casing: 7" set @ 3330 cemented w/ 100 sx around shoe and 400 sx thru perf @ 1000' cmt. circ. 4½" set @ 3397 cemented w/ 375 sx around shoe. Cable Tool Drilled Contractor: J. C. Clower

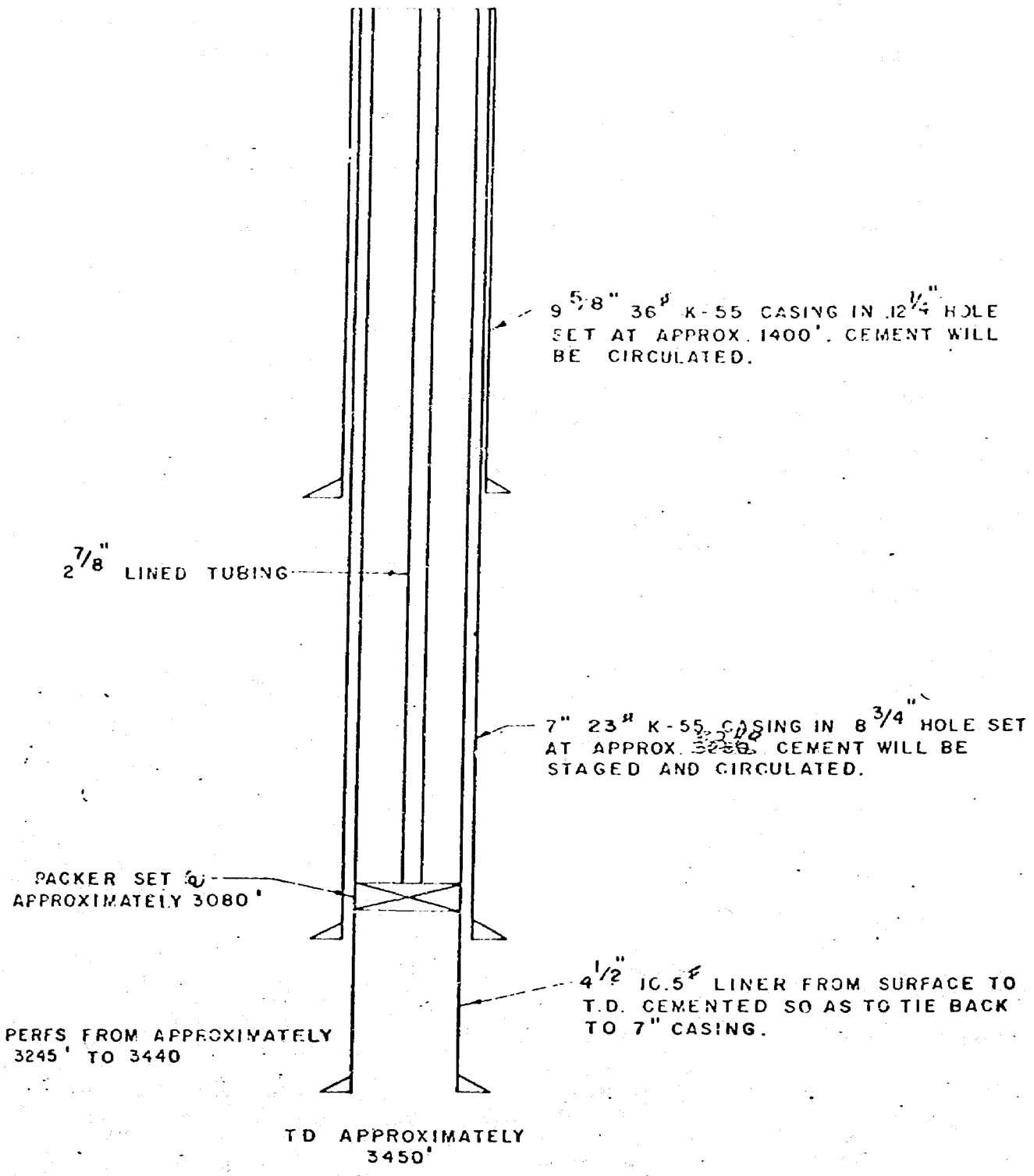
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Gas Yates Unit 5-4 Operator: Anadarko Production Company	2310 FNL & 990 FWL, Unit E Sec. 14, T20S, R33E, NMPM	Oil Producer P & A then re-entered 11-16-81 Currently waiting on recompletion	12-24-53 (P & A 12-58 re-entered 11-16-81)	1-22-54	3416	3389	Yates Seven Rivers —	Open Hole: 3370-3389 Casing: 7" set @ 3370, cemented w/ 450 sx, circ 30 sxs to pit Cable Tool Drilled Contractor: J. C. Clower
Gas Yates Unit 5-5 Operator: Anadarko Production Company	990 FNL & 990 FWL, Unit D Sec. 14, T20S, R33E, NMPM	Active Oil Producer	7-9-74	9-15-74	3385	3265	Yates Seven Rivers	Perfs: 3137-3250 Casing: 9 5/8" @ 1420 cemented w/560 sx (circulated). 7" @ 3085 w/420 sx 5½" liner w/top @ 2943 & bottom @ 3375 cemented w/ 50 sxs 2 3/8" tbg @ 3106. Rotary Tool Drilled Contractor: Cactus Drlg Co.
Gas Yates Unit 12-1 Operator: Anadarko Production Company	660 FNL & 660 FEL, Unit A Sec. 15, T20S, R33E, NMPM	Water Injection Well	6-25-53 (Converted 5-3-72)	8-10-53	3342	-	Yates	Open Hole: 3293-3342 Casing: 5½" @ 3293 w/350 sx cmt, circ. 2 3/8" Salta lined tbg @ 3195.

Well Name, Number & Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
as Yates Unit 13-1 erator: Anadarko oduction Company	660 FSL & 660 FWL, Unit M Sec. 11, T20S, R33E, NMPM	P & A Water Injection Well	12-5-53	1-10-55 (Converted to WIW 5-5-77)	3507	Plugged back to Surface	Yates	Open Hole: Plugged back to surface. Casing: 5½" 14# @ 3275 cmtd w/50 sx around shoe and 450 sx thru perf @ 2600. Plugging operations circ 565 sx from perf @ 849' 4" liner from 3219 to 3487 cemented w/165 sx. Plugged from top to bottom with one continous plug. Cable Tool Drilled Contractor: Cactus Drlg. Co.
as Yates Unit 14-1 erator: Anadarko oduction Company	330 FSL & FEL Unit P Sec. 10, T20S, R33E, NMPM	P & A Water Supply Well	3-15-56 Respud 9-6-73 Recompleted 9-24-73	P & A 9-10-56	3700	Plugged to Surface	Seven Rivers	Open Hole: Plugged back to Surface Casing: 8 5/8" 28# H-40 set @ 1525 with 300 sx. cmt. circ. to surface. 5½" 14# J-55 set @ 3395' with 600 sx. cmt. circ. to surface. Plugged with 1665 sx cement.

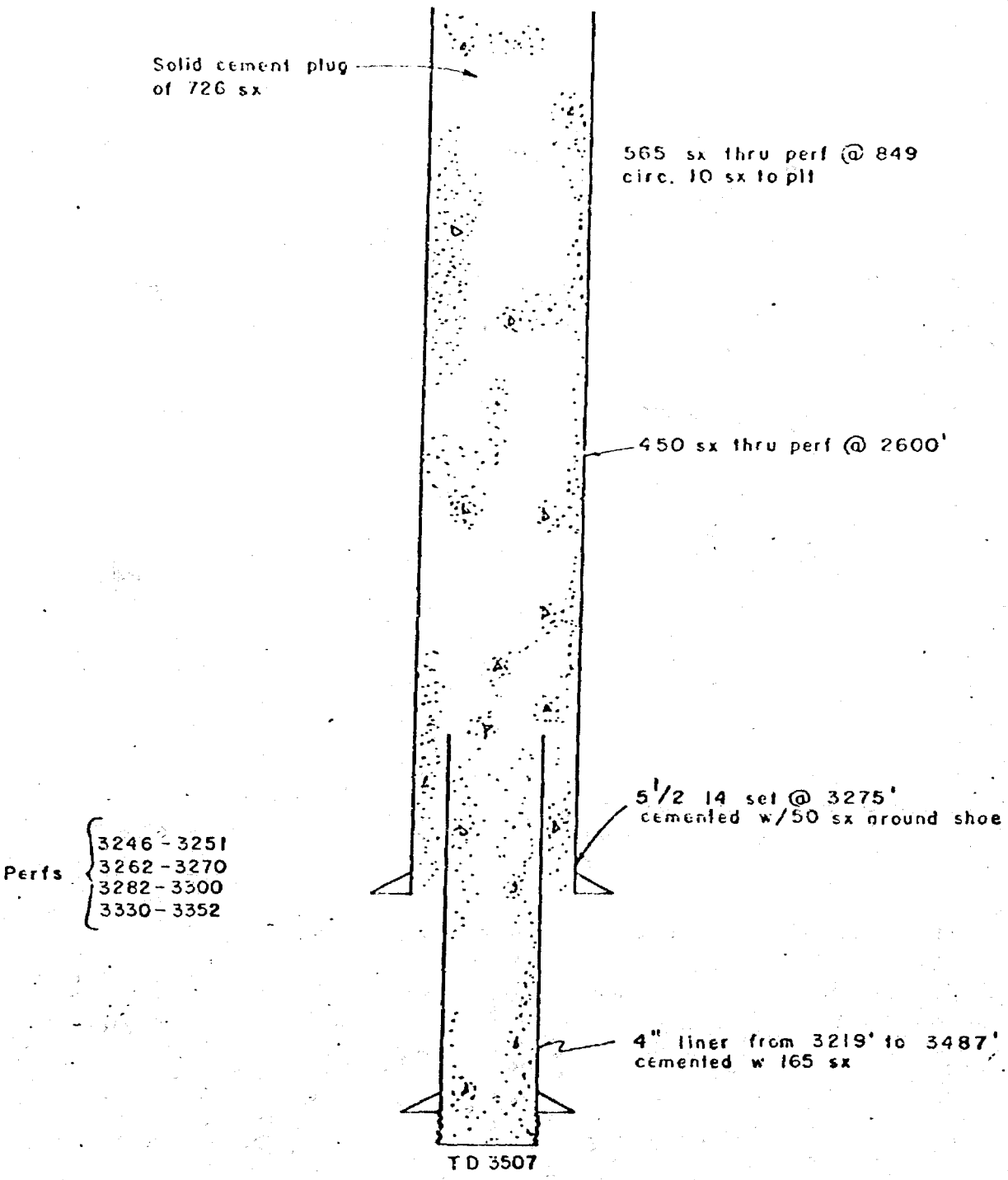
ll Name, Number erator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
haffey-Fed. ARC #1 erator: Arco	660 FNL & 1980 FWL, Unit C Sec. 14, T20S, R33E, NMPM	Gas Producer (Dual) (Morrow currently shut-in, Bone Springs producing)	4-30-62	12-6-62 (BS) 12-31-62 (M)	14948	13800	Bone Springs, Morrow	Perfs: Morrow 13294-302, 13309-317, 13423-429, 13526-528, 13532-543, Bone Springs 9408-14, 9416-18, 9422-24, 9430-34, 9442-50, 9454-57, Casing: 20" @ 1400' w/1900 sxs 13 3/8" @ 3100' w/3500 sxs 9 5/8" @ 9000' w/2620 sxs 7" @ 13813' w/1350 sxs Rotary Tool Drilled
as Yates Unit WSW #1 erator: Anadarko oduction Company	1330 FNL & 1330 FWL, Unit F, Sec. 14, T20S, R33E, NMPM	Active Water Supply Well	3-31-81	8-31-81	3830		Seven Rivers Reef	Casing: 10 3/4" 40.5# ST & C, R-3 J-55 set @ 1260'. Cmted w/825 sx, circ 200 sx to pit. 7 5/8" 26.4# N-80 set @ 3100'. Cmted w/690 sx cmt. circ 200 sx to pit 5½" 15.5# K-55 ST & C Liner set @ 3830 w/top @ 2690'. Cmt w/150 sx circ 20 sx. Perfs: 3660-63, 3674-81, 3696-3700, 3708-11, 3724-27, 3746-49, 3758-62. Rotary Tool Drilled Contractor: Warton Drlg. Co.

TEAS YATES UNIT

PROPOSED INJECTION WELL 13-2

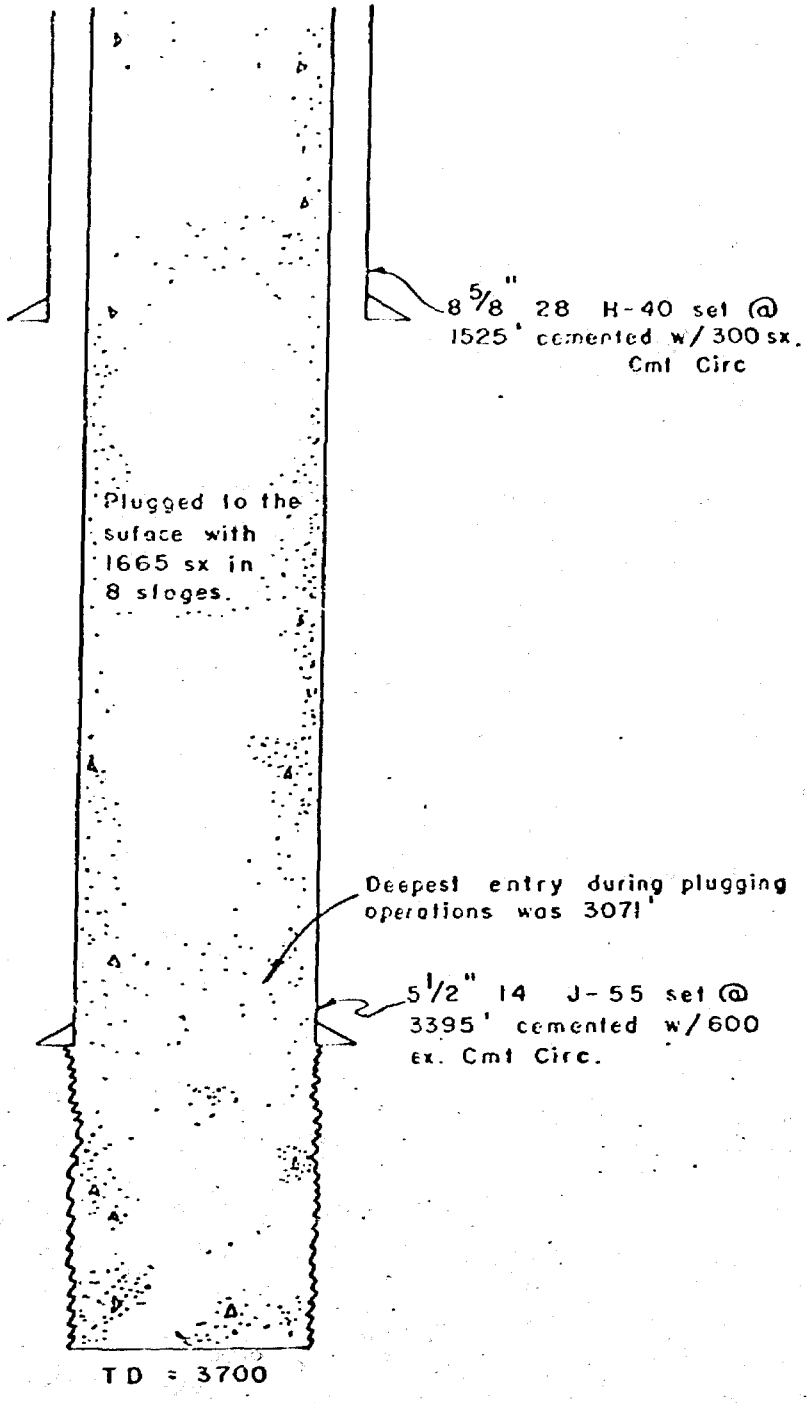


TEAS YATES UNIT 13-1
P & A 10-8-81



TEAS YATES UNIT 14-1

P & A 5-27-81



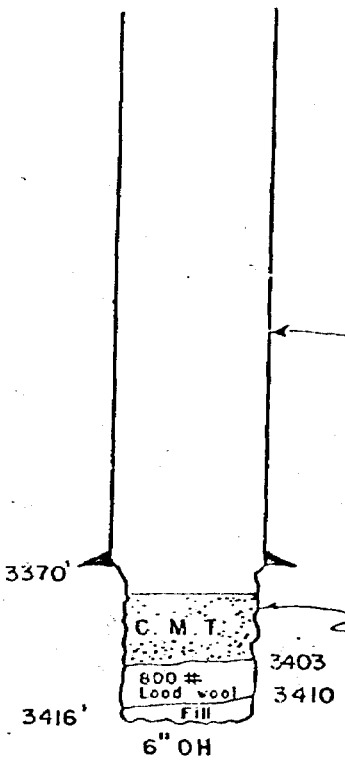
P & A: Dec. ,1958
Re-entered 11-16-81

Well Name & Number:

Treas Yates Unit 5-4 (APC)

Location:

2310' FNL, 990' FWL, Unit E
Sec 14, T 20S R 33E



TOC:

Cement Circulated

7" csg

Csg:

7" csg @ 3370' cmtd w/450 sxs @ shoe. Circ. 30 sx

Cleaned Out To 3389'
On 11-16-81

TD: 3416'

Perfs:

None

KELLAHIN AND KELLAHIN
Attorneys at Law
El Patio - 117 North Guadalupe
Post Office Box 2265
Santa Fe, New Mexico 87501

Jason Kellahin
W. Thomas Kellahin
Karen Aubrey
James B. Grant

Telephone 982-4285
Area Code 505

August 13, 1982

Mr. Joe D. Ramey
OIL CONSERVATION DIVISION
Post Office Box 2088
Santa Fe, New Mexico 87501

RECEIVED
AUG 16 1982
OIL CONS. DIV.
SANTA FE

Re: Anadarko Production Company
Teas Yates Unit
Lea County, New Mexico

Case 7977

Dear Mr. Ramey:

Please find enclosed our application on behalf of Anadarko Production Company for expansion of their Teas Yates Waterflood Project previously approved by Order R-4077.

Please set this matter for hearing on the September 15, 1982 docket.

Anadarko is requesting the following:

1. To drill and commence injection into the following new injections wells:

   (a) Teas Yates Unit 8-4; 2250' FSL & 975' FWL, Sec. 13, T20S, R33E, NMPM; L-13

   (b) Teas Yates Unit 13-2; 10' FSL & 660' FWL, Sec. 11, T20S, R33E, NMPM; M-11

   (c) Teas Yates Unit 1-2; 1980' FNL & 10' FWL, Sec. 18, T20S, R34E, NMPM. E-18

2. To convert the following wells from producing to injection wells:

   (a) Teas Yates Unit 5-3; 1980' FNL & 1650' FWL; Sec. 14, T20S, R33E, NMPM; F-14

   (b) Teas Yates Unit 2-1; 1980' FNL & 1980' FWL of Sec. 12, T20S, R33E, NMPM. F-13

For each injection well, the proposed average injection volume is to be approximately 250 BWIPD and the maximum volume should not exceed 400 BWIPD. The water injection is to be a mixture of water produced on the unit and make-up water from the Seven Rivers reef formation produced from our Teas Yates Unit WSW #1. The proposed maximum injection pressure is to be 1150 psig (see enclosed step rate test).

The injection zone is to be the Yates sand which is approximately 200' thick at this point and approximately 3240' deep.

Currently there are no sources of drinking water on the lease.

The proposed stimulation program is simply a matrix acid job consisting of approximately 5000 gallons of 20% NE-FE acid.

3. To drill the following four new producing wells at unorthodox well locations:

Teas Yates Unit 11-2, 1250' FNL & 1000' FEL, Sec. 14, T20S, R33E, NMPM. (TD 3405')

Teas Yates Unit 8-3, 2490' FNL & 10' FWL, Sec. 13, T20S, R33E, NMPM. (TD 3425')

Teas Yates Unit 2-4, 2520' FSL & 1980' FWL, Sec. 13, T20S, R33E, NMPM. (TD 3500')

Teas Yates Unit 2-3, 1200' FNL & 1980' FWL, Sec. 13, T20S, R33E, NMPM. (TD 3490')

Very truly yours,

W. Thomas Kellahin

WTK:rb
Enclosure
cc: Mr. Dan Kernaghan,
Anadarko

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

RECEIVED
AUG 16 1982
OIL CONSERVATION DIVISION
SANTA FE

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [X] yes [ ] no

II. Operator: AMERADA HESS CORPORATION

Address: P. O. Box 2040, Midland, Texas 79702

Contact party: Mr. Dan Kernaghan Phone: (915) 682-1666

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? [X] yes [ ] no
If yes, give the Division order number authorizing the project R-4077.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: W. Thomas Kellahin Title Attorney

Signature: W. Thomas Kellahin Date: August 16, 1982

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. If not attached, see Administrative Order WFX -492

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

ANADARKO PRODUCTION COMPANY 900 GIBRALTAR SAVINGS CENTER • P.O. BOX 2497 • MIDLAND, TEXAS 79702

July 9, 1982

Tom Kellahin
500 Dan Gaspar
Santa Fe, New Mexico 87501

Dear Sir:

Attached is the information necessary to file for permission to drill water injection well #1-2 on our Teas Yates Unit in Lea County, New Mexico. The proposed well is to be a replacement water injection well for Teas Yates Unit 1-1 which will be plugged. The proposed injection well is to be located 1980'FNL & 10'FWL, Unit E, Sec.18, T20S, R34E, NMPM, and is to be drilled to a total depth of approximately 3500'.

The proposed average injection volume is to be 250 BWIPD and the maximum volume should not exceed 400 BWIPD. The water injected is to be a mixture of water produced on the unit and make-up water from the Seven Rivers reef formation produced from our Teas Yates Unit WSW #1. The proposed maximum injection pressure is to be 1150 psig (see enclosed step rate test).

The injection zone is to be the Yates Sand which is approximately 170' thick at this point and 3330' deep.

Currently there are no sources of drinking water on the Lease.

The proposed stimulation program is simply a matrix acid job consisting of approximately 5000 gallons of 20% NE-FE acid.

Sincerely,

Mark E. Fesmire
Senior Production Engineer

MEF:gks

TABLE OF ALL WELLS WITHIN ½ MILE RADIUS OF PROPOSED WIW 1-2

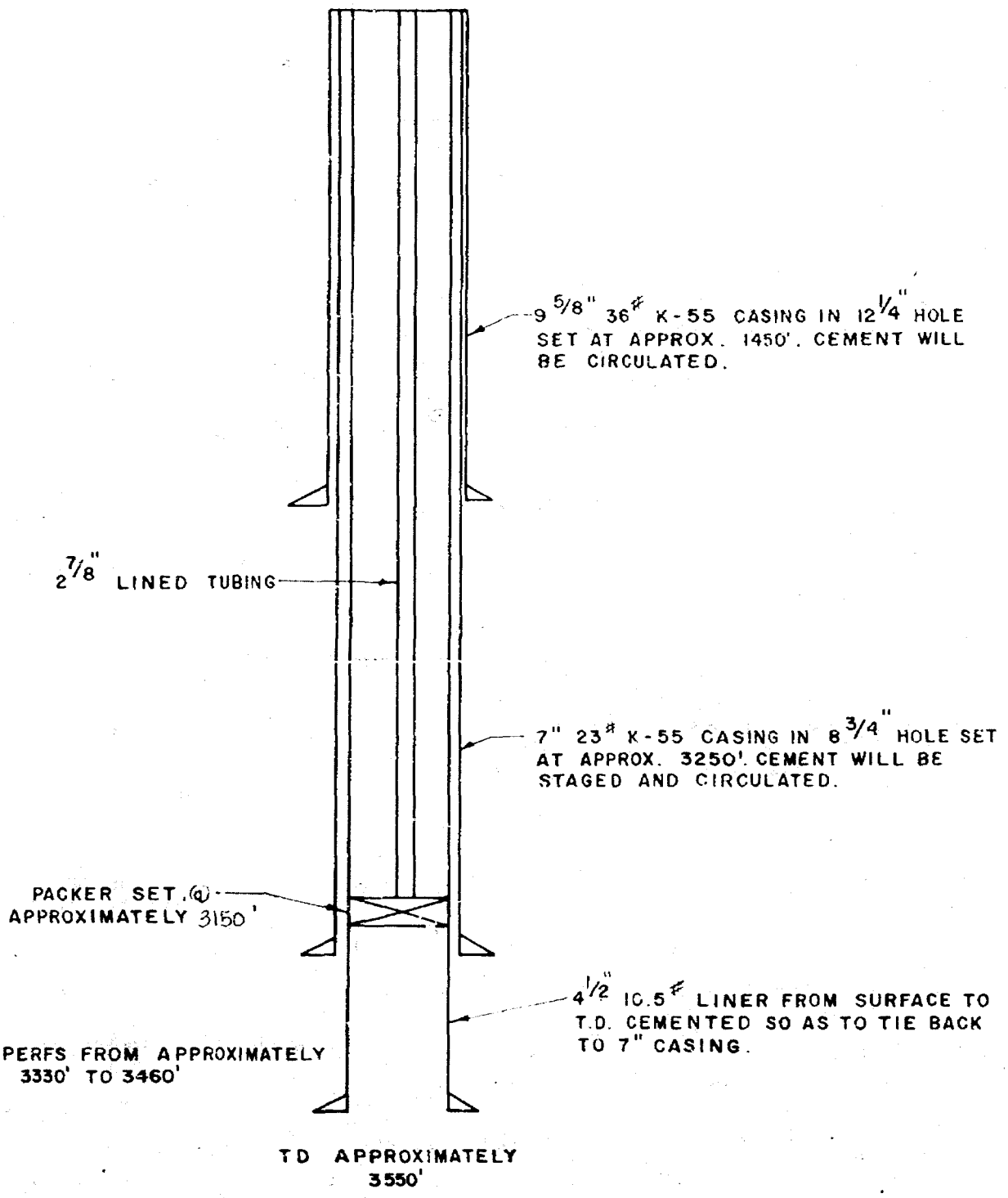
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 3-2 Operator: Anadarko Production Company	2310 FSL & 1980 FEL Unit K Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-31-57 TA 9-25-58 (Recompleted: 10-3-74)	4-1-58	3543	3478	Yates	Perfs: 3335-3350, 3361-3366, 3386-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. Casing: 8 5/8" 32# Lapweld set @ 1001' and cemented w/255 sx (100 sx circ. to pit). 5½" 14# J-55 set @ 3491 and cemented w/75 sx (top @ 3110 by survey). Cable Tool Drilled Contractor: Roach & Shepard
Teas Yates Unit 3-3 Operator: Anadarko Production Company	1815 FNL & 990 FEL Unit H Sec. 13, T20S, R33E, NMPM	Active Oil Well	1-7-58	2-25-58	3499	-	Yates	Open Hole: 3464-3479 Perfs: 3302-11, 3316-20, 3324-34, 3342-46, 3353-57, 3362-76, 3388-3406, 3436-44. Casing: 8 5/8" set @ 997 cemented w/400 sx. cmt. circ. 5½" set @ 3464 cemented w/500 sx. Survey showed cement to within 100' of surface, dumped 15 sx to bring cement to surface. Cable Tool Drilled Contractor: Roach & Shepard

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 3-4 Operator: Anadarko Production Company	990 FNL & 1650 FEL Unit B Sec. 13, T20S, R33E, NMPM	Water Injection Well	11-13-58 Re-entered 7-22-74 Re-completed as injection well 2-26-75	P & A 12-14-58	3536	3506	Yates	**Perfs:** 3306-11, 3314-20, 3326-34, 3340-46, 3360-67, 3373-91, 3399-3406, 3469-74, 3478-84. **Casing:** 8 5/8" 24# set @ 990' cemented w/525 sx. cmt. circ. 4½" 10.5# J-55 set @ 3511 with a D. V. Tool @ 2813 cemented w/880 sx. TOC @ 300' by survey. Orig. Cable Tool Drilled Re-entry by Rotary Tools Contractor: Cactus Drlg Co.
Teas Yates Unit 4-1 Operator: Anadarko Production Company	1980 FNL & 1980 FEL Unit G, Sec. 13, T20S, R33E, NMPM	Active Oil Well	7-21-57	8-30-57	3389 DDTD 3482	3426	Yates	**Open Hole:** 3369 to 3426 **Perfs:** 3292 to 3328, 3346 to 3364. **Casing:** 5½" 14# & 15½# J-55 set @ 3369 cemented w/620 sx around shoe and 375 sx thru cellar. Cemented to surface. Cable Tool Drilled Contractor: J. C. Clower

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Wallen Federal #6 Operator: Wallen Production Company	2310 FNL & 2310 FWL Unit F Sec. 18, T20S, R34E, NMPM	Active Oil Well	12-9-72	6-18-73	3612		Yates	Perfs: 3427-3538 Casing: 9 5/8" set @ 1500' cemented w/500 sx. cmt. circ. 7" set @ 3381' w/330 sx 4½" liner from 3112 to 3612 cemented w/50 sx. Contractor: Cactus Drlg Co.
Texas Yates Unit 1-1 Operator: Anadarko Production Company	1980 FNL & 660 FNL Unit E Sec. 18, T20S, R34E, NMPM	Water Injection Well	8-14-58 (convert to water injection well 5-15-75)	9-5-58	3525	-	Yates	Open Hole: 3267-3525 Casing: 8 5/8" 24# J-55 set @ 1514 cemented w/250 sx. cmt. circ. 5½" 14# J-55 set @ 3267 cemented w/375 sx. cmt. circ. Rotary Tool Drilled Contractor: H. P. Holmes

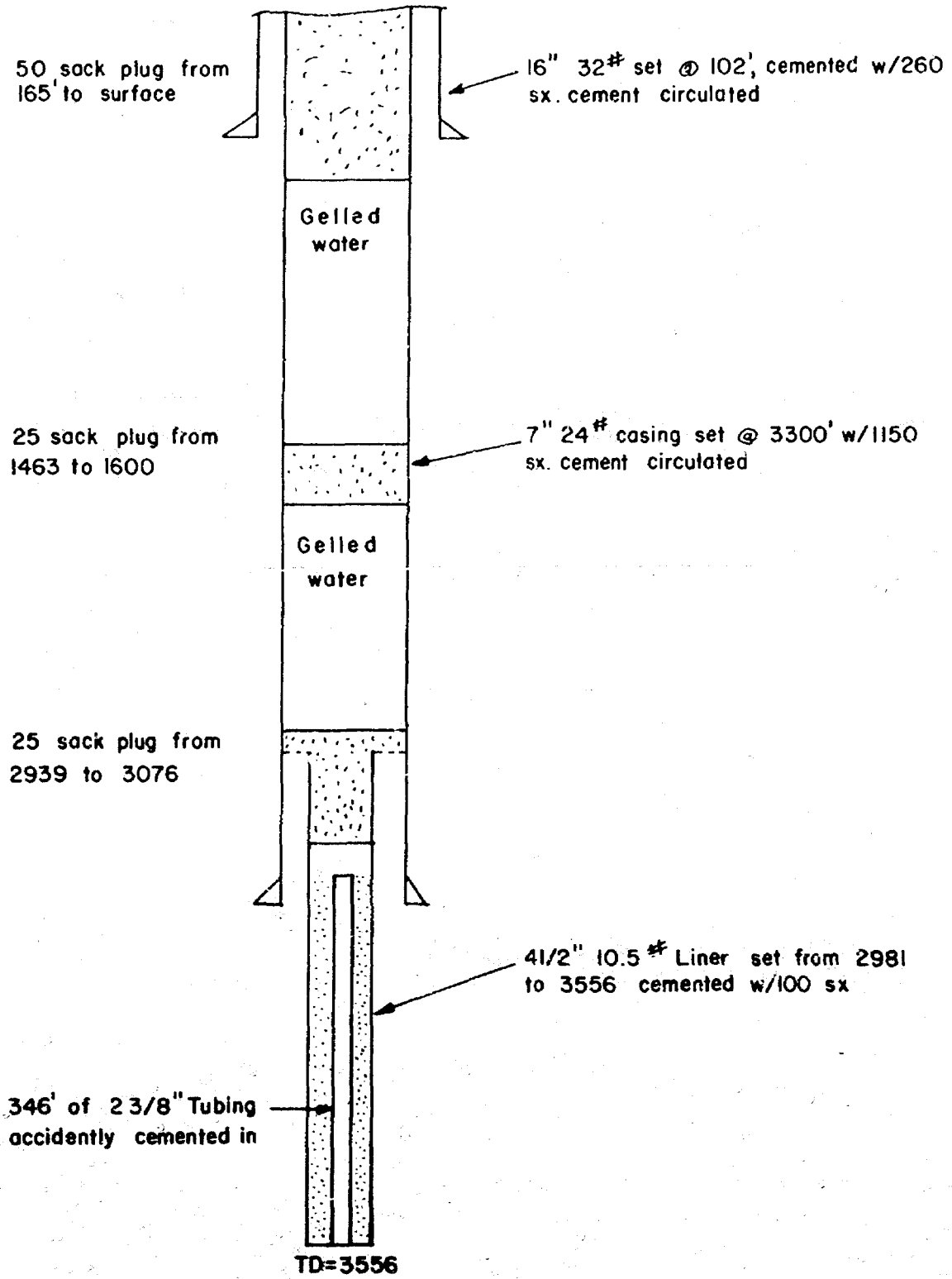
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Wallen Federal #8 Operator: Wallen Production Company	2310 FSL & 2310 FWL Unit K Sec. 18, T20S, R34E, NMPM Lea County, New Mexico	P & A (Junked before Production)	7-16-75	Junked P & A 10-7-75	3556		Yates	**Junked and Abandoned** **Casing:** 16" 32# cemented w/580 sx cmt. circ. 7" 24# set @ 3300 w/1150 sx cmt. circ. 4½" 10.5# liner from 2981 to 3556 cemented w/100 sx. **Cable Tool Drilled** **Contractor:** N/A
Wallen Federal #8X Operator: Wallen Production Company	2310 FSL & 2295 FWL Unit K Sec. 18, T20S, R34E, NMPM	Producing Oil Well	10-18-75	3-7-76	3562		Yates	**Perfs:** 3410-3516 **Casing:** 16" set @ 100' cemented w/380 sx cmt circulated. 7" set @ 3258 w/1150 sx cmt. circ. 4½" liner from 2950'-3562' cemented w/60 sx. **Cable Tool Drilled** **Contractor:** N/A

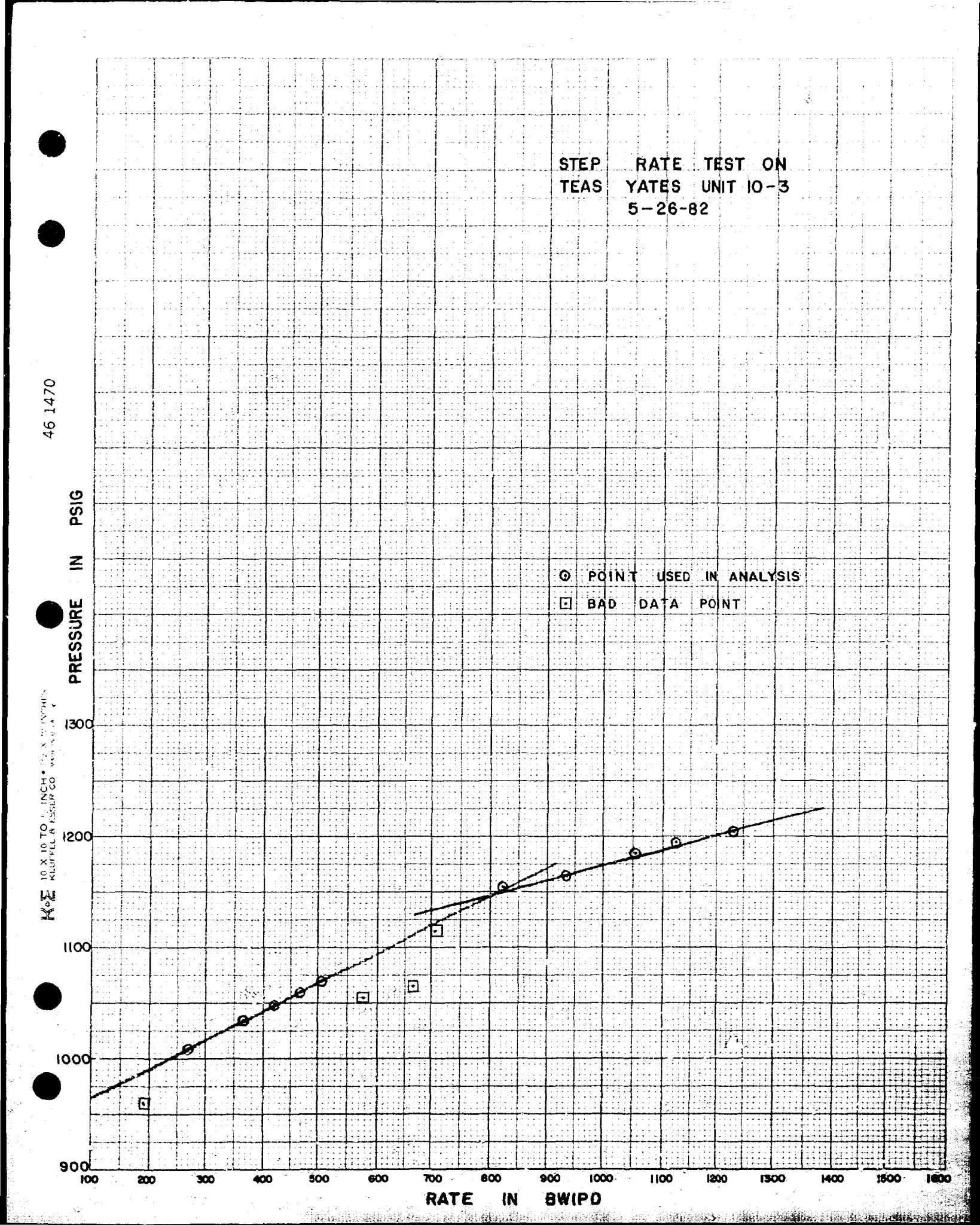
TEAS YATES UNIT
PROPOSED INJECTION WELL 1-2



WALLEN FEDERAL #8

P & A 10-7-75




STEP RATE TEST ON
TEAS YATES UNIT 10-3
5-26-82
POINT USED IN ANALYSIS
BAD DATA POINT
PRESSURE IN PSIG
RATE IN BWIPD
900
1000
1100
1200
1300
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
46 1470
KE 10 X 10 TO INCH KEUFFEL & ESSER CO

The following data points were obtained in a step rate test that was run on 5-26-82 and was witnessed by Mr. Edd See with the Oil Conservation Division.

PT. #	FINAL SURFACE PRESSURE (psig)	FINAL RATE (BWIPD)
1	960	190
2	1010	270
3	1035	368
4	1050	421
5	1060	467
6	1070	508
7	1055	576
8	1065	665
9	1115	705
10	1155	823
11	1165	934
12	1185	1054
13	1195	1122
14	1205	1234

The recorded rates and pressures are after a 45 minute stabilization time.

Points 1, 7, 8 and 9 appear to be bad data.

Using points 2, 3, 4, 5, 6 and 10 in a least squares analysis, the equation for the best fit line is:

$$BWIPD = -3577.9179 + 3.8126 \text{ (Pressure)} \quad r^2 = .9995$$

Using points 11, 12, 13 and 14 in a least squares analysis, the equation for the best fit line is:

$$BWIPD = -7545.4286 + 7.2686 \text{ (Pressure)} \quad r^2 = .9768$$

Equating the two lines and solving for the intersection will give the surface fracture pressure:

$$-3577.9179 + 3.8126 \text{ (P)} = -7545.4286 + 7.2686 \text{ (P)}$$

$$\underline{P = 1148.01 \text{ psig}}$$

Calculated Fracture Pressure = 1148 psig

ANADARKO PRODUCTION COMPANY 900 GIBRALTAR SAVINGS CENTER · P.O. BOX 2497 · MIDLAND, TEXAS 79702

July 7, 1982

Tom Kellahin
500 Don Gaspar
Santa Fe, New Mexico 87501

Case 7677

Dear Sir:

Attached is the information necessary to file for permission to convert to water injection Teas Yates Unit Well #2-1 in Lea County, New Mexico. The well is located 1980'FNL & 1980'FWL of Sec.12, T20S, R33E, NMPM.

The proposed average injection volume is to be approximately 250 BWIPD and the maximum volume should not exceed 400 BWIPD. The water injected is to be a mixture of water produced on the unit and make-up water from the Seven Rivers reef formation produced from our Teas Yates Unit WSW #1. The proposed maximum injection pressure is to be 1150 psig (see enclosed step rate test).

The injection zone is to be the Yates sand which is approximately 200' thick at this point and approximately 3240' deep.

Currently there are no sources of drinking water on the lease.

The proposed stimulation program is simply a matrix acid job consisting of approximately 5000 gallons of 20% NE-FE acid.

Sincerely,

Mark E. Fesmire
Senior Production Engineer

MEF:gks

TABLE OF ALL WELLS WITHIN ½ MILE RADIUS OF PROPOSED WIW 2-1

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 2-2 Operator: Anadarko Production Company	660 FNL & 330 FWL Unit D, Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-25-54 (Converted 10-26-54)	11-21-54	3359 DDTD 3535		Yates	Open Hole: 3325-3535 Casing: 5½" set @ 3325 cemented w/ 200 sx around shoe and 200 sx thru perf @ 1410. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 3-2 Operator: Anadarko Production Company	2310 FSL & 1980 FEL Unit K Sec. 13, T20S, R33E, NMPM Lea County, New Mexico	Water Injection Well	10-31-57 TA 9-25-58 (Recompleted: 10-3-74)	4-1-58	3543	3478	Yates	Perfs: 3335-3350, 3361-3366, 3386-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. Casing: 8 5/8" 32# Lapweld set @ 1001' and cemented w/255 sx (100 sx circ. to pit). 5½" 14# J-55 set @ 3491 and cemented w/75 sx (top @ 3110 by survey). Cable Tool Drilled Contractor: Roach & Shepard

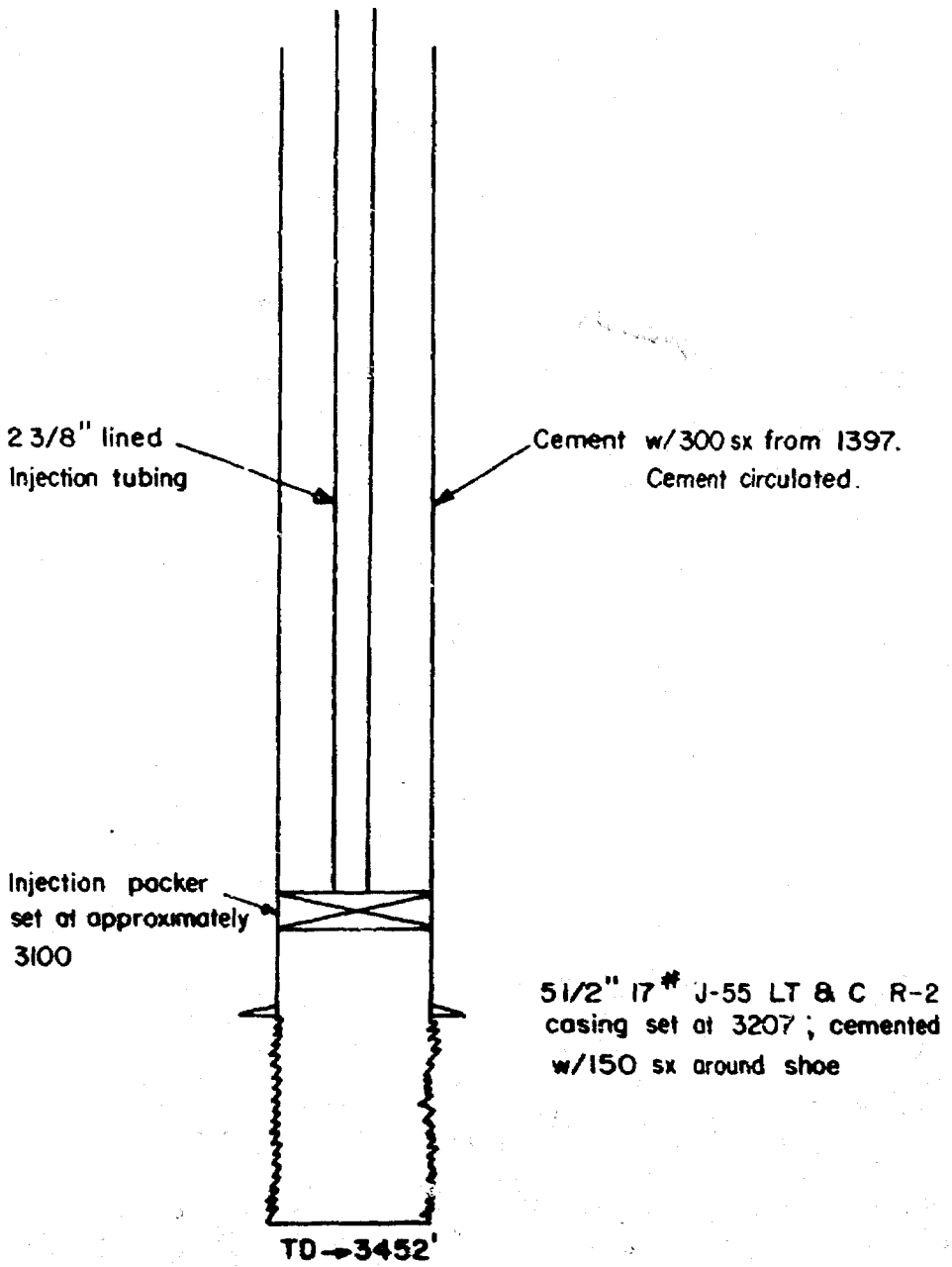
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 3-3 Operator: Anadarko Production Company	1815 FNL & 990 FEL Unit H Sec. 13, T20S, R33E, NMPM	Active Oil Well	1-7-58	2-25-58	3499	--	Yates	Open Hole: 3464-3499 Perfs: 3302-11, 3316-20, 3324-34, 3342-46, 3353-57, 3362-76, 3388-3406, 3436-44 Casing: 8 5/8" set @ 997 cemented w/400 sx. (Cmt. Circ.) 5½" set @ 3464 cemented w/ 500 sx. Survey showed cement to within 100' of surface, dumped 15 sx to bring cement to surface. Cable Tool Drilled Contractor: Roach & Shepard
Teas Yates Unit 3-4 Operator: Anadarko Production Company	990 FNL & 1650 FEL Unit B Sec. 13, T20S, R33E, NMPM	Water Injection Well	11-13-58 Re-entered 7-22-74 Re-completed as injection well 2-26-75	P & A 12-14-58	3536	3506	Yates	Perfs: 3306-11, 3314-20, 3326-34, 3340-46, 3360-67, 3373-91, 3399-3406, 3469-74, 3478-84. Casing: 8 5/8" 24# set @ 990' cemented w/525 sx cmt. circ. 4½" 10.5# J-55 set @ 3511 with a D. V. tool @ 2813 cemented w/880 sx. TOC @ 300' by survey. Orig. Cable Tool Drilled Re-entry by Rotary Tools Contractor: Cactus Drlg, Corp.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 4-1 Operator: Anadarko Production Company	1980 FNL & 1980 FEL Unit G Sec. 13, T20S, R33E, NMPM	Active Oil Well	7-21-57	8-30-57	3389 DDTD 3482	3426	Yates	Open Hole: 3369 to 3426 Perfs: 3292 to 3328, 3346 to 3364 Casing: 5½" 14# & 15½# J-55 set @ 3369 cemented w/620 sx around shoe and 375 sx thru cellar. Cemented to surface. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 8-1 Operator: Anadarko Production Company	1980 FNL & 660 FWL Unit E Sec. 13, T20S, R33E, NMPM	Oil Producer (P & A)	2-27-51 P & A 7-56	3-29-51	3338	3325	Yates	Perfs: 1385-86 (squeeze perf) Open Hole: 3178 to 3325 Casing: 7" set @ 3178 cemented w/100 sx, 200 sx squeezed @ 1385-86. Cable Tool Drilled Contractor: Spartan Drlg, Co. See plugging diagram.

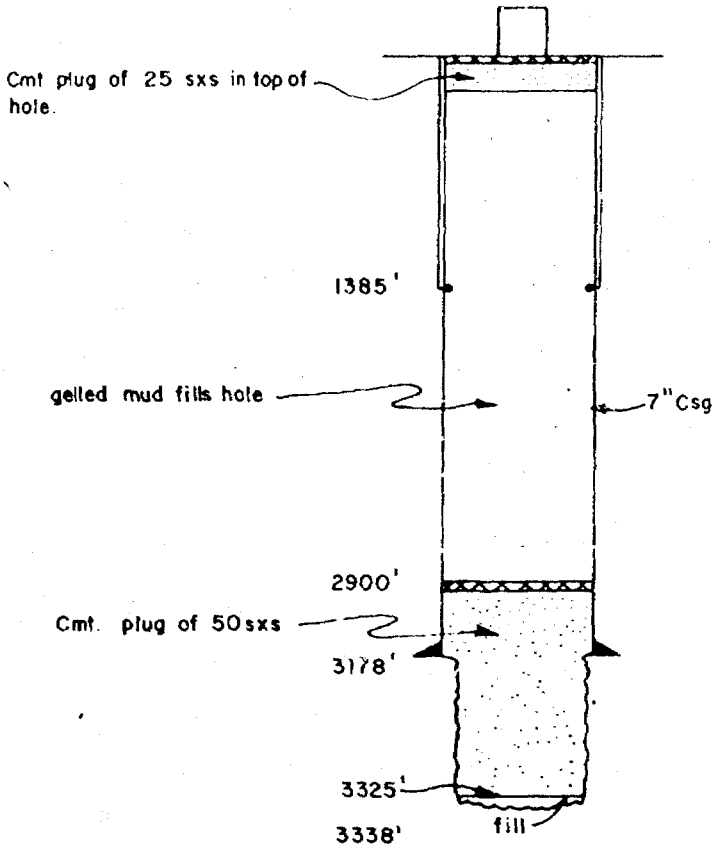
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 8-2 Operator: Anadarko Production Company	1980 FNL & 990 FWL Unit E Sec. 13, T20S, R33E, NMPM	Active Oil Producer (replacement for 8-1)	5-21-56	7-14-56 (recompleted 10-27-77)	3328 DDTD 3410	-	Yates	Open Hole: 3252 to 3410 Casing: 8 5/8" set @ 1500' w/450 sx, cmt circulated. 5½" set @ 3252 w/175 sx. Cable Tool Drilled Contractor: Thomas Drlg, Co.

TEAS YATES UNIT 2-I

PROPOSED CONVERSION TO INJECTION



P & A: July, 1956



Well Name & Number:

Teas Yates Unit 8-1 (APC)

Location:

1980'FNL, 660'FWL, Unit E
Sec. 13, T 20S R 33E

TOC:

200 sxs thru. perf. @ 1385'

Csg:

7" csg @ 3178' cmtd w/100 sxs @ shoe.

TD: 3338'

Perfs:

Squeeze perf from 1385'-86'

ANADARKO PRODUCTION COMPANY 900 GIBRALTAR SAVINGS CENTER • P.O. BOX 2497 • MIDLAND, TEXAS 79702

June 30, 1982

Tom Kellahin
500 Don Gaspar
Santa Fe, New Mexico 87501

Dear Sir:

Attached is the information necessary to file for permission to convert to water injection Teas Yates Unit Well #5-3 in Lea County, New Mexico. The well is located 1980'FNL & 1650'FWL, Sec.14, T20S,R33E, NMPM.

The proposed average injection volume is to be approximately 250 BWIPD and the maximum volume should not exceed 400 BWIPD. The water injected is to a mixture of water produced on the unit and make-up water from the Seven Rivers reef formation produced from our Teas Yates Unit WSW #1. The proposed maximum injection pressure is to be 1150 psig (see enclosed step rate test).

The injection zone is to be the Yates sand which is approximately 200' thick at this point and approximately 3300' deep.

Currently there are no sources of drinking water on the lease.

The proposed stimulation program is simply a matrix job consisting of approximately 5000 gallons of 20% NE-FE acid.

Sincerely,

Mark E. Fesmire
Senior Production Engineer

MEF:gks

TABLE OF OFFSET WELLS WITHIN A ½ MILE RADIUS
TEAS YATES UNIT 5-3

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 5-1 Operator: Anadarko Production Company	660 FNL & 660 FWL, Unit D, Sec. 14, T20S, R33E, NMPM, Lea County, New Mexico	Oil Production P & A	8-26-53	9-30-53 (P & A 2-21-75)	3388	3266	Yates Seven Rivers	Open Hole: 3373-3385 Casing: 5½" set @ 3250' w/50 sacks around shoe plus 370 sx thru a perf @ 1500. Pulled tbg and filled with cement to surface to P & A. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 5-4 Operator: Anadarko Production Company	2310 FNL & 990 FWL, Unit E, Sec. 14, T20S, R33E, NMPM	Oil Producer P & A then re-entered 11-16-81 Currently waiting on recompletion	12-24-53	1-22-54 (P & A 12-58 re-entered 11-16-81)	3416	3389	Yates Seven Rivers	Open Hole: 3370-3389 Casing: 7" set @ 3370, cemented w/ 450 sx. circ 30 sxs to pit. Cable Tool Drilled Contractor: J. C. Clower
Mahaffey-Fed. ARC #1 Operator: Arco	660 FNL & 1980 FWL, Unit C, Sec. 14, T20S, R33E, NMPM	Gas Producer (Dual) (Morrow currently shut-in, Bone Springs producing)	4-30-62	12-6-62 (BS) 12-31-62 (M)	14948	13800	Bone Springs, Morrow	Perfs: Morrow 13,294-302, 13,309-317, 13,423-429, 13,526-528, 13,532-543, Bone Springs 9,408-14, 9,416-18, 9,422-24, 9,430-34, 9,442-50, 9,454-57. Casing: 20" @ 1400' w/1900 sxs 13 3/8" @ 3100' w/3500 sxs 9 5/8" @ 9000' w/2620 sxs 7" @ 13813' w/1350 sxs Rotary Tool Drilled

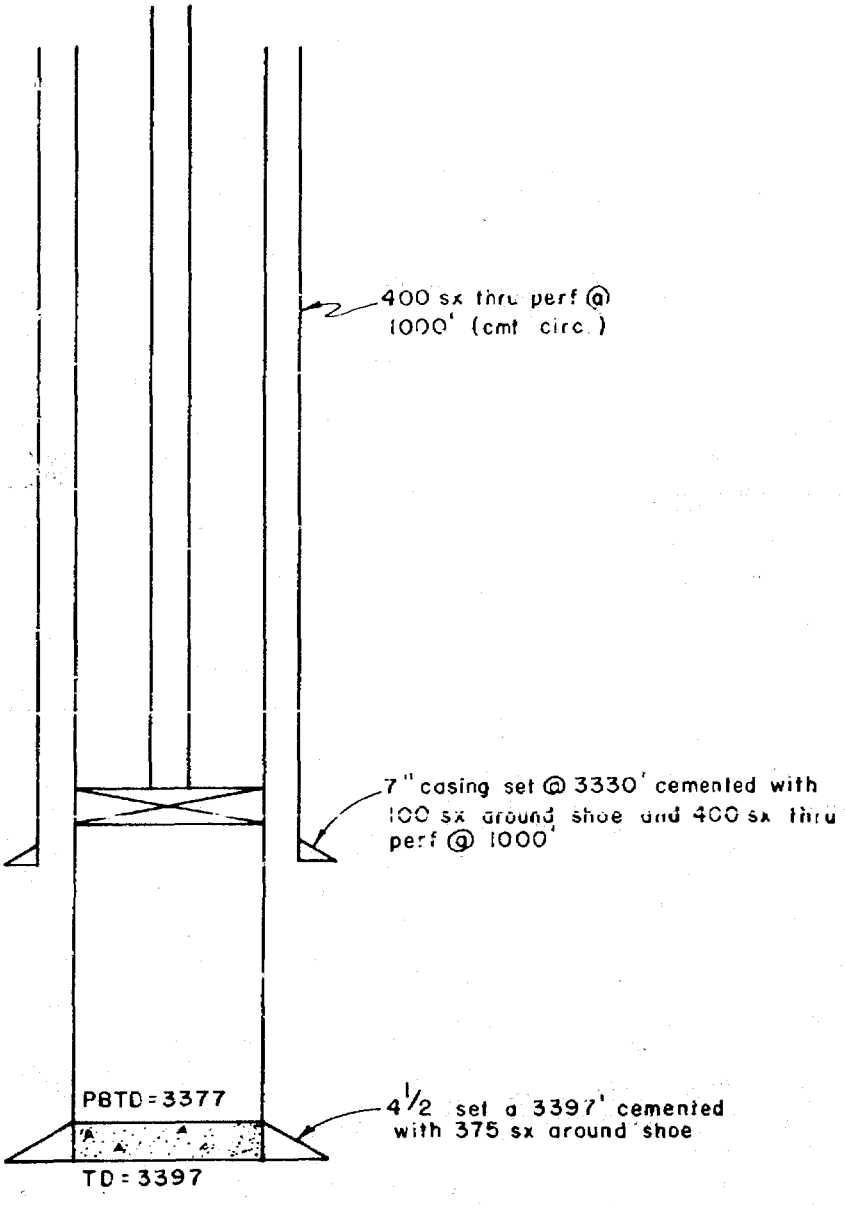
Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 5-2 Operator: Anadarko Production Company	660 FNL & 1650 FWL, Unit C, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	10-4-53 (Recompleted 8-30-56)	10-29-53	3278 deepened to 3392	3370	Yates Seven Rivers	Open Hole: 3225-3392 Casing: 7" @ 3240 cemented w/50 sx around shoe and 420 sxs from 1000' 2" tbg at 3286. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 5-5 Operator: Anadarko Production Company	990 FNL & 990 FWL, Unit D, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	7-9-74	9-15-74	3385	3265	Yates Seven Rivers	Perfs: 3137-3250 Casing: 9 5/8" @ 1420 cemented w/560 sx (circulated). 7" @ 3085 w/420 sx 5½" liner w/top @ 2943 & bottom @ 3375 cemented w/50 sxs 2 3/8" tbg @ 3106. Rotary Tool Drilled Contractor: Cactus Drlg. Co.
Teas Yates 6-1 Operator: Anadarko Production Company	990 FSL & 2310 FWL, Unit L, Sec. 14, T20S, R33E, NMPM	Active Water Injection Well	8-1-65 (Converted 5-3-72)	10-28-65	3428	3418	Yates	Perfs: 3236-40, 3244-47, 3252-56 Casing: 8 5/8" @ 950 cemented w/ 300 sx. 4½" @ 3426 cemented w/523 sx. 2" Salta lined injection tbg @ 3095 Rotary Tool Drilled Contractor: N/A

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 7-1 Operator: Anadarko Production Company	2310 FSL & 1960 FWL, Unit K, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	2-26-54	3-10-54 (Recompleted June 1977)	3324 DDTD 3420		Yates Seven Rivers	Perfs: 3180-97, 3210-14, 3227-59 Open Hole: 3280-3420 Casing: 7" @ 3280 cemented w/100 sx + 310 sxs @ 1000, 2" tbg @ 3275 Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 9-1 Operator: Anadarko Production Company	990 FSL & 2310 FWL, Unit N, Sec. 14, T20S, R33E, NMPM	Water Injection Well	3-22-54	4-20-54 (converted 3-6-72)	3338	3338	Yates Seven Rivers	Perfs: 3267-71, 3275-86 Open Hole: 3294-3338 Casing: 7" @ 3290 w/420 sxs, 2" Salta lined tbg @ 3204 Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 10-2 Operator: Anadarko Production Company	1650 FNL & 2310 FEL, Unit G, Sec. 14, T20S, R33E, NMPM	Active Oil Producer	2-13-54	3-18-54 (recompleted 5-6-77)	3330 DDTD 3394		Yates	Perfs: 3228-3394 Open Hole: 3202-24 Casing: 5½ @ 3228 w/100 sxs around shoe and 150 sxs @ 1368 Cable Tool Drilled Contractor: N/a

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 11-1 Operator: Anadarko Production Company	990 FNL & 2310 FEL, Unit B, Sec. 14, T20S, R33E, NMPM	Water Injection Well	12-19-54	1-28-55 (converted 5-6-72)	3319	3288	Yates	Open Hole: 3215-3288 Casing: 5½" @ 3215 w/435 sx cmt. cmt. circ to surface, 2" Salta lined tbg @ 3145. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 12-1 Operator: Anadarko Production Company	660 FNL & 660 FEL, Unit A, Sec. 15, T20S, R33E, NMPM	Water Injection Well	6-25-53	8-10-53 (Converted 5-3-72)	3342	-	Yates	Open Hole: 3293-3342 Casing: 5½" @ 3293 w/350 sx cmt. circ. 2 3/8" Salta lined tbg @ 3195.
Teas Yates Unit 14-2 Operator: Anadarko Production Company	2310 FSL & 2310 FEL, Unit J, Sec. 14, T20S, R33E, NMPM	Active Producing Well	(P & A 12-31-54) (Re-spud 6-5-74) (recomplete 4-22-75)		3455		Yates	Casing: 10 3/4" @ 513 w/456 sx, cmt circ. 4½" @ 3455 w/765 sx, cmt circ. Perfs: 3212-3280, 3316-3334 Drilled with Cable Tools, re-entered with Rotary Tools.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit WSW #1 Operator: Anadarko Production Company	1330 FNL & 1330 FWL, Unit F, Sec. 14, T20S, R33E, NMPM	Active Water Supply Well	3-31-81	8-31-81	3830		Seven Rivers Reef	Casing: 10 3/4" 40.5# St & C, R-3 J-55 set @ 1260'. Cmted w/825 sx, circ 200 sx to pit. 7 5/8" 26.4# N-80 set @ 3100'. Cmted w/690 sx cmt. circ 200 sx to pit. 5½" 15.5# K-55 ST & C Liner set @ 3830 w/top @ 2690'. Cmt w/150 sx circ 20 sx. Perfs: 3660-63, 3674-81, 3696-3700, 3708-11, 3724-27, 3746-49, 3758-62. Rotary Tool Drilled Contractor: W arton Drlg. Co.
Teas Yates Unit 10-3	2265 FNL & 1425 FEL, Unit G, Sec. 14, T20S, R33E, NMPM	Water Injection	1-10-82	4-18-82	3426		Yates	Perfs: 3222 to 3252, 3258-3264, 3330-50. Casing: 9 5/8" 36# K-55 ST & C set @ 1334 and cemented w/620 sx around shoe. Cement circ. 7" 23# K-55 set @ 3210 and cemented w/ 920 sx around shoe. Cement circ. 4½" 10.5# J and K-55 set @ 3426 cemented w/55 sx around shoe. TOC @ 2770 by survey. Contractor: W arton Drlg. Co.

TEAS YATES UNIT 5-3
PROPOSED INJECTION WELL



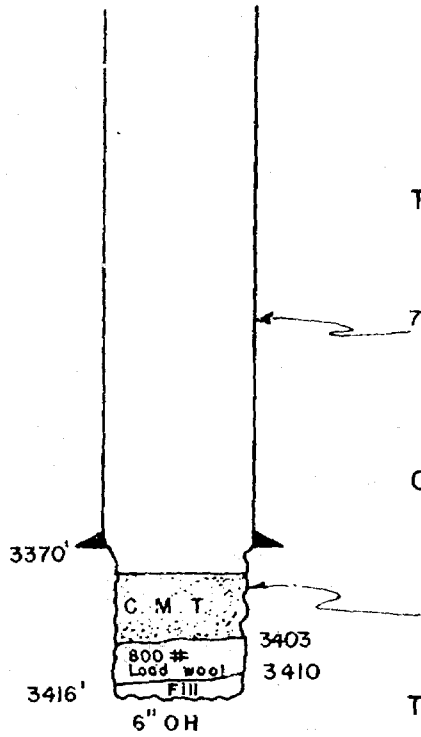
P&A: Dec ,1958
Re-entered 11-16-81

Well Nome & Number:

Teas Yates Unit 5-4 (APC)

Location:

2310' FNL, 990' FWL, Unit E
Sec.14, T20S R33E



TOC:

Cement Circulated

7" csg

Csg:

7" csg @ 3370' cmtd w/450 sxs @ shoe Circ 30 sx

Cleaned Out To 3389' On 11-16-81

TD: 3416'

Perfs:

None

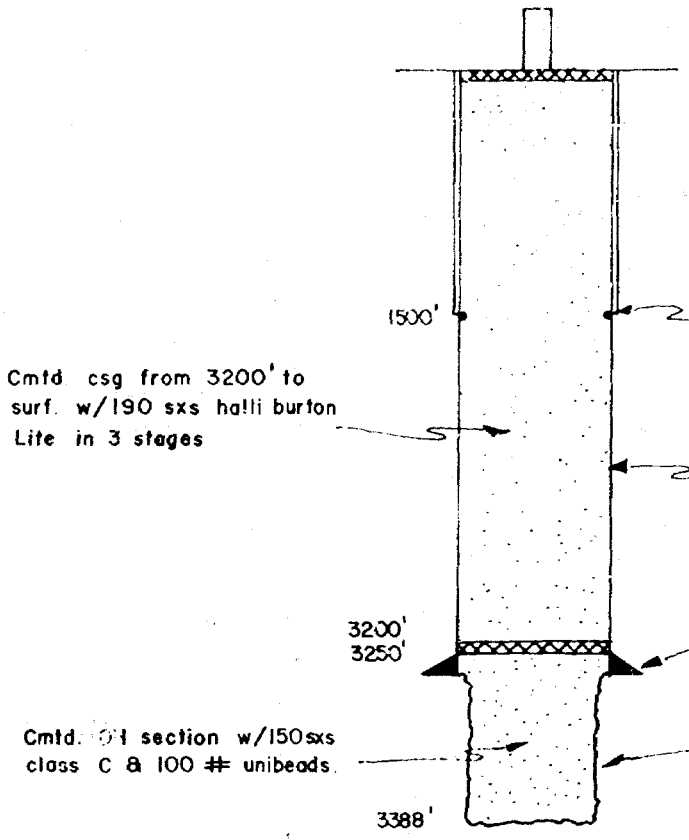
P & A : 2-21-75

Well Name & Number :

Teas Yates Unit 5-I (APC)

Location :

660' FNL , 660' FWL , Unit D
Sec. 14 , T20S R33E



TOC :

370 sxs thru. perf. @ 1500' to surface.

5 1/2" Csg.

Csg :

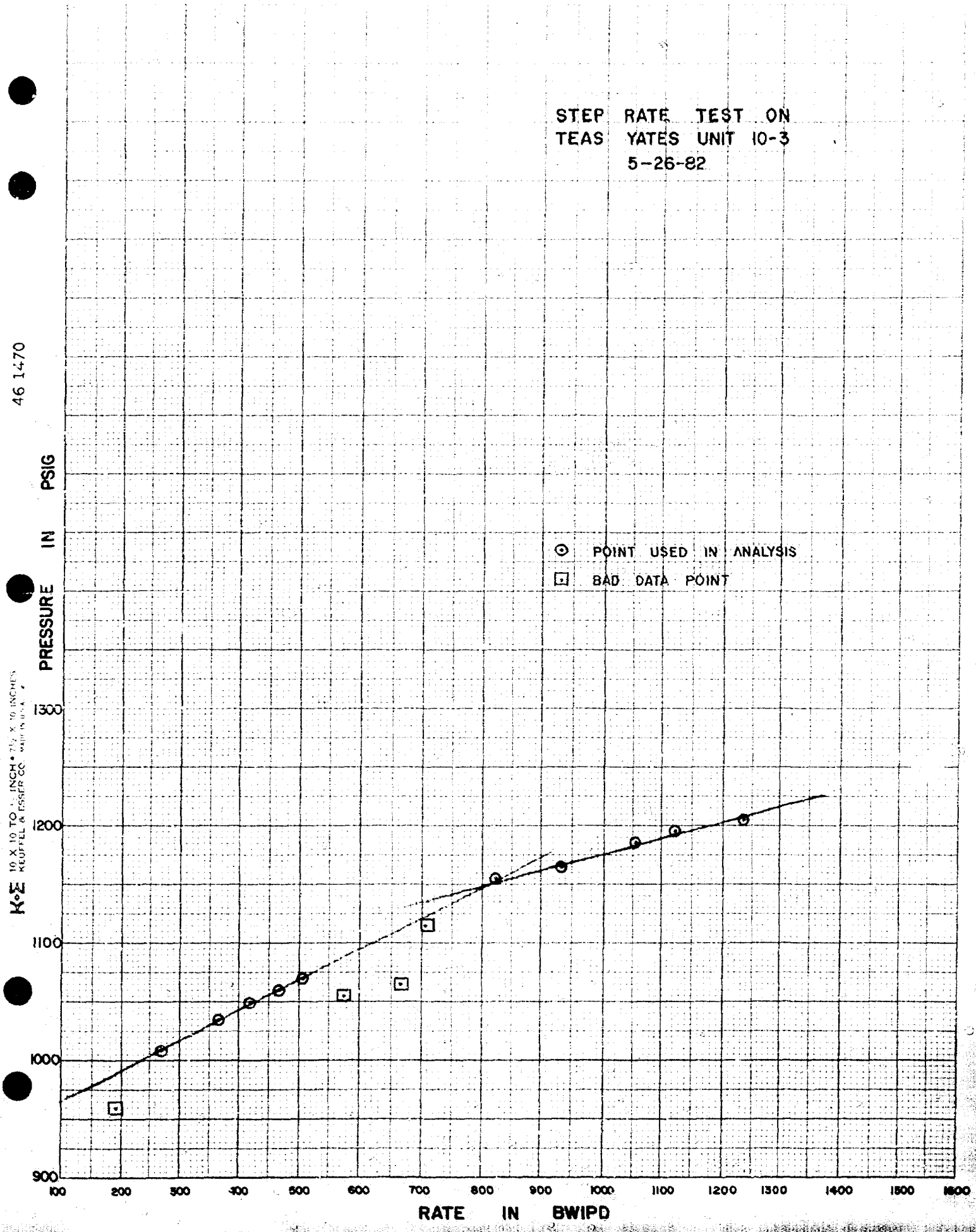
5 1/2" Csg @ 3250' Cmtd. w/50 sxs @ shoe

4 3/4" hole

TD: 3388'

Perfs :

Squeeze perf @ 1500'


STEP RATE TEST ON
TEAS YATES UNIT 10-3
5-26-82
POINT USED IN ANALYSIS
BAD DATA POINT
PRESSURE IN PSIG
RATE IN BWIPD
900
1000
1100
1200
1300
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
46 1470
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ANADARKO PRODUCTION COMPANY 500 GIBRALTAR SAVINGS CENTER • P.O. BOX [illegible] • MIDLAND, TEXAS 79701

June 22, 1982

Kellahin & Kellahin
500 Don Gaspar
Santa Fe, New Mexico 87501

Attn: Tom Kellahin

Dear Sir:

Attached is the information necessary to file for permission to drill water injection well #8-4 on our Teas Yates Unit in Lea County, New Mexico. The proposed well is to be drilled 2250' FSL & 975' FWL, Sec. 13, T20S, R33E, NMPM and is to be drilled to a total depth of approximately 3500'.

The proposed average injection volume is to be 250 BWIPD and the maximum volume should not exceed 400 BWIPD. The water injected is to be a mixture of water produced on the unit and make-up water from the Seven Rivers reef formation produced from our Teas Yates Unit WSW #1. The proposed maximum injection pressure is to be 1150 psig (see enclosed step rate test).

The injection zone is to be the Yates sand which is approximately 200' thick at this point and approximately 3300' deep.

Currently there are no sources of drinking water on the lease.

The proposed stimulation program is simply a matrix acid job consisting of approximately 5000 gallons of 20% NE - FE Acid.

Sincerely,

Mark E. Fesmire
Senior Production Engineer

Attachment

Enclosure

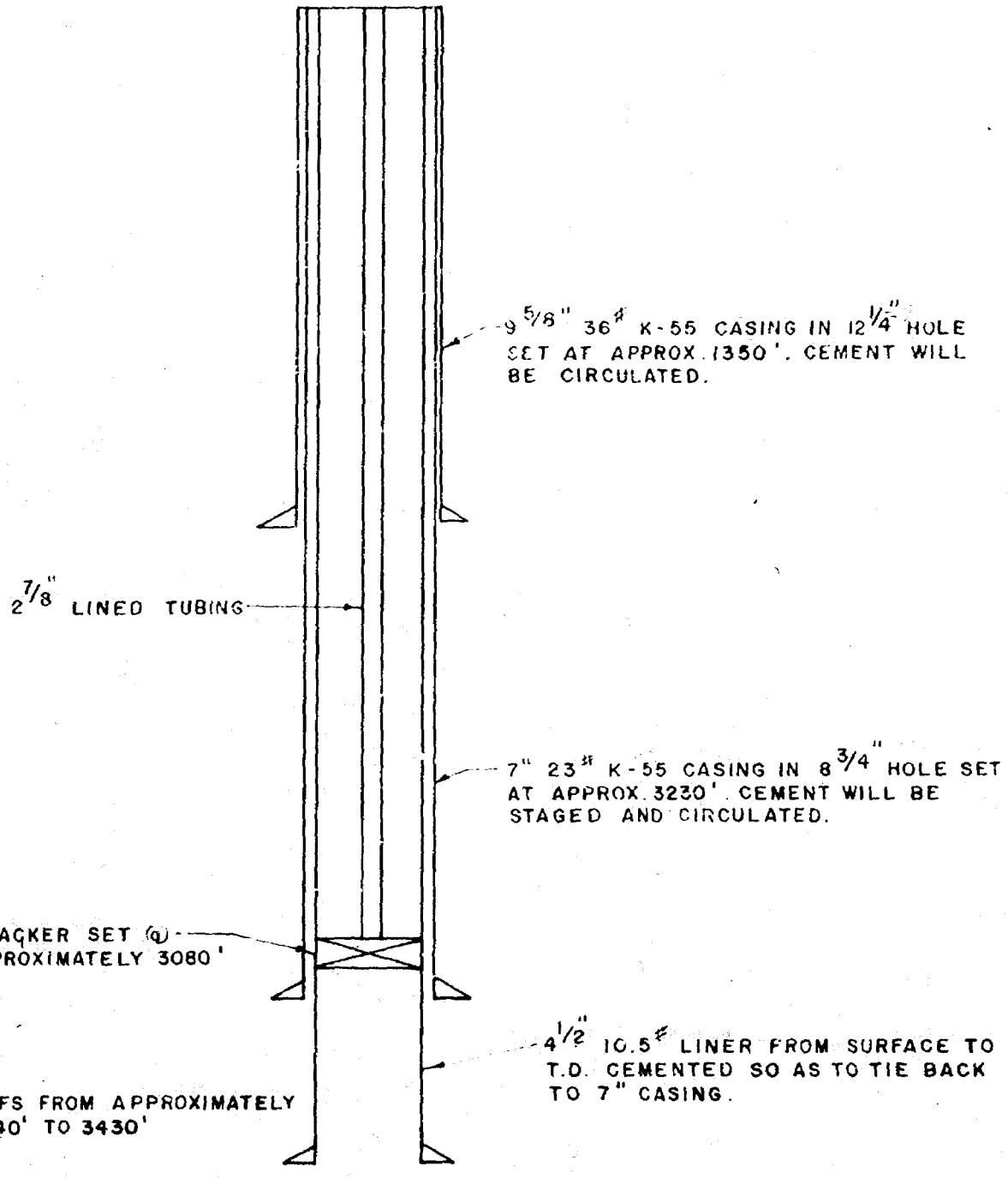
FEM:rd

Well Name, Number and Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 8-1 Operator: Anadarko Production Company	1980 FNL & 660 FWL, Unit E, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer (P & A)	2-27-51	3-29-51 (P & A 7-56)	3338	3325	Yates	Perfs: 1385-86 (squeezed perfs) Open Hole completion: 3178 to 3325. Casing: 7" set @ 3178 cemented w/100 sx, 200 sx squeezed @ 1385-1386. Cable Tool Drilled. Contractor: Spartan Drlg. Co.
Texas Yates Unit 8-2 Operator: Anadarko Production Company	1980 FNL & 990 FWL, Unit E, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer active (replacement for 8-1)	5-21-56	7-14-56 (recompleted 10-27-77)	3328 deepened to 3410		Yates	Open Hole completion: 3252 to 3410. Casing: 8 5/8" set @ 1500' w/ 450 sx circulated cmt. 5½" set @ 3252 w/175 sx. 2 7/8" tbg @ 3291. 4 3/4" open hole 3252 to 3410. Cable Tool Drilled. Contractor: Thomas Drlg. Co.
Texas Yates Unit 15-1 Operator: Anadarko Production Company	1980 FSL & 660 FEL, Unit I, Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Well		6-18-51 (P & A 6-18-51) (re-entered 7-12-74 converted and completed 2-38-75)	3535	3523	Yates	Perfs: 3261-76, 3282-99, 3319-25, 3334-43, 3348-58, 3380-86, 3392-3400. Casing: 10 3/4" set @ 510' w/ 635 sx cement. 4½ set @ 3517 w/1260 sxs (150 circ to pit) 2 3/8" salta lined tbg @ 3191. Cable Tool Drilled, Rotary Tools used on re-entry. Contractor: N/A

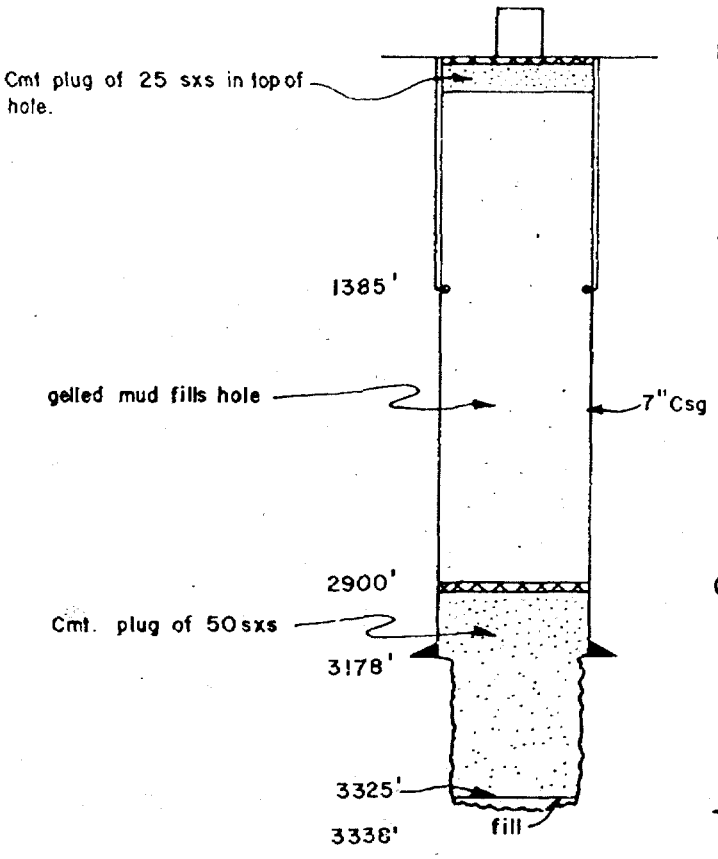
Well Name, Number	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
s Yates Unit 2-1 rator: Anadarko duction Company	1980 FNL & 1980 FWL, Unit F Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Acitve	2-27-52	4-14-52	3209 drilled deeper to 3350 then to 3452		Yates	Open Hole completion 3209 to 3452. Casing: 5½" 14# set @ 3209 cemented w/150 sx around shoe and 300 sx thru D. V. Tool @ 1397 (circ to surface). Cable Tool Drilled.
s Yates Unit 10-1 rator: Anadarko duction Company	1650 FNL & 330 FEL, Unit H, Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Active	6-28-52	8-15-52	3209 drilled deeper to 3341 then to 3428		Yates	Open Hole completion 3209 to 3428. Casing: 5½" 15# set @ 3209 cemented w/150 sx around shoe and 300 sx thru D. V. Tool @ approximately 1400. Cable Tool Drilled.
s Yates Unit 3-2 rator: Anadarko duction Company	2310 FSL & 1980 FEL, Unit K Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Active	10-31-57	4-1-58 (TA 9-25-58) (recompleted 10-3-74)	3543	3478	Yates	Perfs: 3335-3350, 3361-3366, 3386-3420, 3442-3454, 3460-3478, 3318-3348, 3356-3362, 3368-3372, 3376-3380. Casing: 8 5/8" 32# Lapweld set @ 1001' and cemented with 225 sx (100 sx circ to pit). 5½" 14# J-55 set @ 3491 and cemented with 75 sx (top @ 3110 by survey). Cable Tool Drilled. Contractor: Roach and Shepard

Name, Number of Well	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
as Yates Unit 2-2 erator: Anadarko oduction Company	660 FNL & 330 FWL, Unit D, Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection Active	10-25-54	11-21-54 (converted: 10-26-74)	3359 DDTD 3535		Yates	Open Hole: 3325-3535 Casing: 5½" set @ 3325 cemented w/200 sx around shoe and 200 sx thru perf @ 1410. Cable Tool Drilled. Contractor: J. C. Clower
s Yates Unit 4-1 erator: Anadarko oduction Company	1980 FNL & 1980 FEL, Unit G Sec. 13, T20S, R33E, NMPM, Lea Co. New Mexico	Oil Producer Active	7-21-57	8-30-57	3389 DDTD 3482	PBTD 3426	Yates	Open Hole: 3369 to 3426 Perfs: 3292 to 3328 and 3346 to 3364. Casing: 5½" 14# & 15½ J-55 set @ 3369 cemented w/620 sx around shoe and 375 sx through cellar. Cemented to surface. Cable Tool Drilled. Contractor: J. C. Clower
s Yates Unit 10-3 erator: Anadarko oduction Company	2265 FNL & 1425 FEL, Unit G Sec. 14, T20S, R33E, NMPM, Lea Co. New Mexico	Water Injection	1-10-82	4-18-82	3426		Yates	Perfs: 3222 to 3252, 3258 to 3264, 3270 to 3310, 3330 to 3350. Casing: 9 5/8" 36# K-55 ST & C set @ 1334 and cemented w/620 sx around shoe. Cement circ. 7" 23# K-55 set @ 3210 and cemented w/ 920 sx around shoe, cement circ. 4½" 10.5# J and K-55 set @ 3426 cemented w/55 sx around shoe. Top of cement @ 2770 by survey.

TEAS YATES UNIT
PROPOSED INJECTION WELL 8-4



P & A: July, 1956



Well Name & Number:

Teas Yates Unit 8-1 (APC)

Location:

1980'FNL, 660'FWL, Unit E
Sec. 13, T20S R33E

TOC:

200 sxs thru. perf. @ 1385'.

Csg:

7" csg @ 3178' cmtd w/100 sxs @ shoe.

TD: 3338'

Perfs:

Squeeze perf from 1385'-86'.

ANADARKO PRODUCTION COMPANY 900 GIBRALTAR SAVINGS CENTER • P.O. BOX 2497 • MIDLAND, TEXAS 79702

July 14, 1982

Tom Kellahin
500 Don Gaspar
Santa Fe, New Mexico 87501

Case 7677

Dear Sir:

Attached is the information necessary to file for permission to drill water injection well #13-2 on our Teas Yates Unit in Lea County, New Mexico. The proposed well is to be a replacement for our water injection well #13-1 which was plugged in 1981. The proposed well is to be located 10' FSL & 660' FWL, Unit M, Sec.11, T20S, R33E, NMPM, and is to be drilled to a total depth of approximately 3450'.

The proposed average injection volume is to be 250 BWIPD and the maximum injection volume should not exceed 400 BWIPD. The water injected is to be a mixture of water produced on the unit and make-up water from the Seven Rivers reef formation produced from our Teas Yates Unit WSW #1. The proposed maximum injection pressure is to be 1150 psig (see enclosed step rate test).

The injection zone is to be the Yates Sand which is approximately 3240' deep and approximately 200' thick at this point.

Currently there are no sources of drinking water on the lease.

The proposed stimulation program is simply a matrix acid job consisting of approximately 5000 gallons of 20% NE-FE acid.

Sincerely,

Mark E. Fesmire
Senior Production Engineer

MEF:gks

WELLS WITHIN A ½ MILE RADIUS OF PROPOSED WIW

TYU 13-2

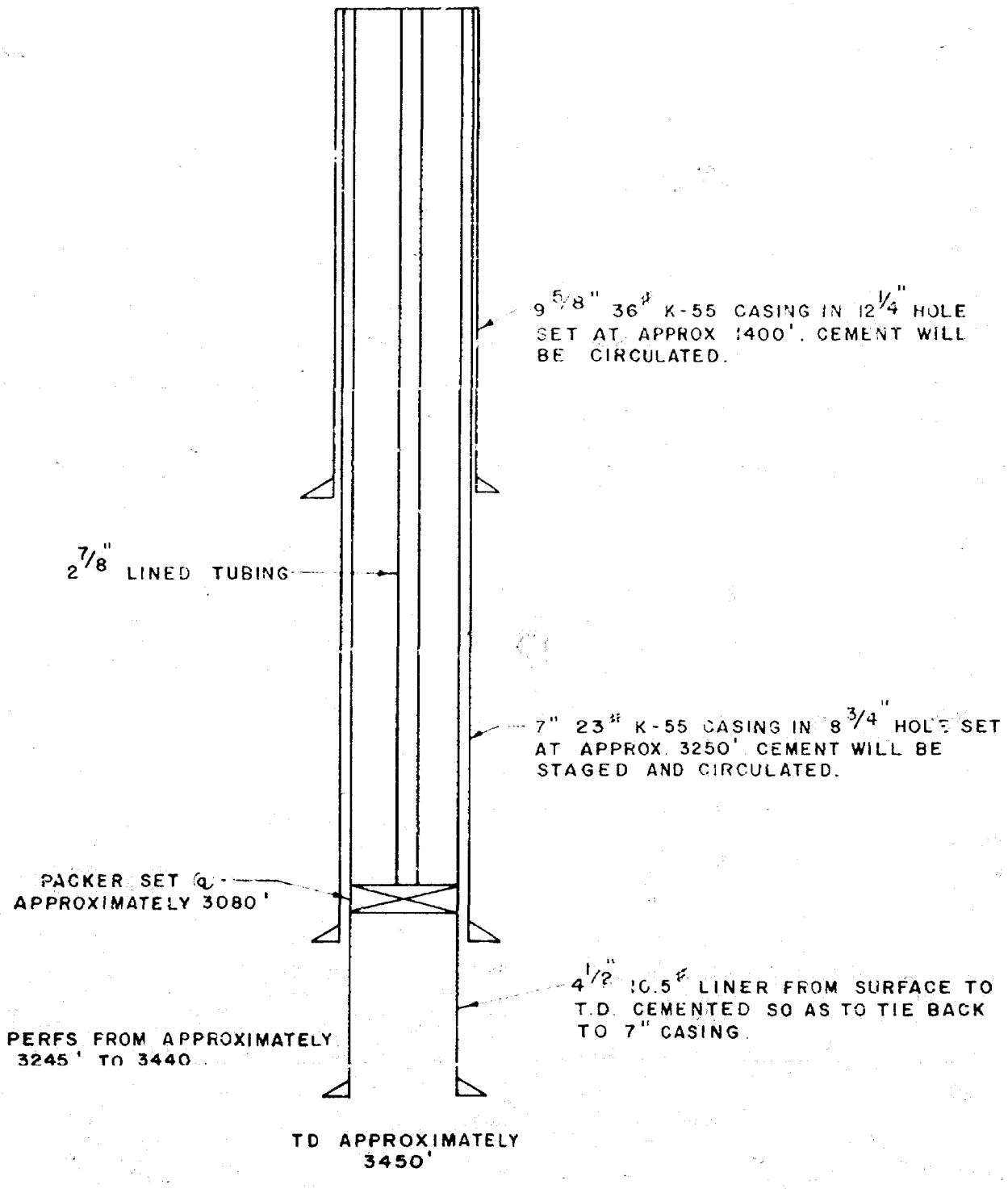
Well Name, Number Ref. Ref.	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Teas Yates Unit 5-1 Operator: Anadarko Production Company	660 FNL & 660 FWL, Unit D Sec. 14, T20S, R33E, NMPM Lea County, New Mexico	Oil Production P & A	8-26-53	9-30-53 (P & A 2-21-75)	3388	3266	Yates Seven Rivers	Open Hole: 3373-3385 Casing: 5½" set @ 3250' w/50 sacks around shoe plus 370 sx thru a perf @ 1500. Pulled tbg and filled with cmt to surface to P & A. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 5-2 Operator: Anadarko Production Company	660 FNL & 1650 FWL, Unit C Sec. 14, T20S, R33E, NMPM	Active Oil Producer	10-4-53	10-29-53 (Recompleted 8-30-56)	3278 deepened to 3392	3370	Yates Seven Rivers	Open Hole: 3225-3392 Casing: 7" @ 3240 cemented w/50 sx around shoe and 420 sxs from 1000'. 2" tbg @ 3286. Cable Tool Drilled Contractor: J. C. Clower
Teas Yates Unit 5-3 Operator: Anadarko Production Company	1980 FNL & 1650 FWL Unit F, Sec. 14, T20S, R33E, NMPM	Active Oil Producing Well (will be converted to injection)	11-12-53	12-16-53	3397	3377	Yates Seven Rivers	Perfs: 3150-70, 3210-35, 3265-85, 3332-40, 3356-64, 3367-71. Casing: 7" set @ 3330 cemented w/ 100 sx around shoe and 400 sx thru perf @ 1000' cmt. circ. 4½" set @ 3397 cemented w/ 375 sx around shoe. Cable Tool Drilled Contractor: J. C. Clower

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 5-4 Operator: Anadarko Production Company	2310 FNL & 990 FWL, Unit E Sec. 14, T20S, R33E, NMPM	Oil Producer P & A then re-entered 11-16-81 Currently waiting on recompletion	12-24-53	1-22-54 (P & A 12-58 re-entered 11-16-81)	3416	3389	Yates Seven Rivers	Open Hole: 3370-3389 Casing: 7" set @ 3370, cemented w/ 450 sx, circ 30 sxs to pit Cable Tool Drilled Contractor: J. C. Clower
Texas Yates Unit 5-5 Operator: Anadarko Production Company	990 FNL & 990 FWL, Unit D Sec. 14, T20S, R33E, NMPM	Active Oil Producer	7-9-74	9-15-74	3385	3265	Yates Seven Rivers	Perfs: 3137-3250 Casing: 9 5/8" @ 1420 cemented w/560 sx (circulated). 7" @ 3085 w/420 sx 5½" liner w/top @ 2943 & bottom @ 3375 cemented w/ 50 sxs 2 3/8" tbg @ 3106. Rotary Tool Drilled Contractor: Cactus Drlg Co.
Texas Yates Unit 12-1 Operator: Anadarko Production Company	660 FNL & 660 FEL, Unit A Sec. 15, T20S, R33E, NMPM	Water Injection Well	6-25-53	8-10-53 (Converted 5-3-72)	3342	-	Yates	Open Hole: 3293-3342 Casing: 5½" @ 3293 w/350 sx cmt. circ. 2 3/8" Salta lined tbg @ 3195.

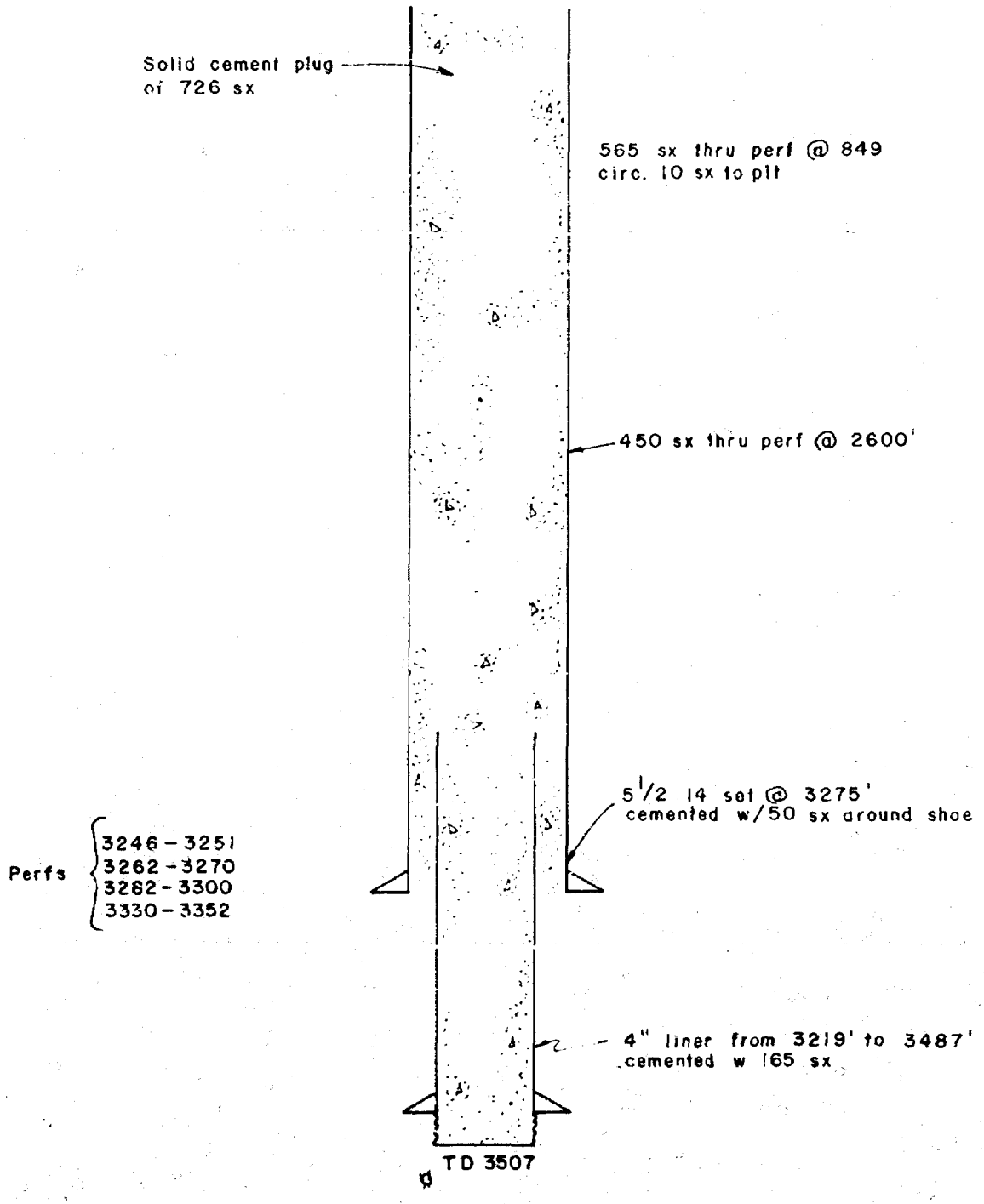
Well Name, Number and Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Texas Yates Unit 13-1 Operator: Anadarko Production Company	660 FSL & 660 FWL, Unit M Sec. 11, T20S, R33E, NMPM	P & A Water Injection Well	12-5-53 (Converted to WIW 5-5-77)	1-10-55	3507	Plugged back to Surface	Yates	Open Hole: Plugged back to surface. Casing: 5½" 14# @ 3275 cmtd w/50 sx around shoe and 450 sx thru perf @ 2600. Plugging operations circ 565 sx from perf @ 849' 4" liner from 3219 to 3487 cemented w/165 sx. Plugged from top to bottom with one continous plug. Cable Tool Drilled Contractor: Cactus Drlg. Co.
Texas Yates Unit 14-1 Operator: Anadarko Production Company	330 FSL & FEL Unit P Sec. 10, T20S, R33E, NMPM	P & A Water Supply Well	3-15-56 Respud 9-6-73 Recompleted 9-24-73	P & A 9-10-56	3700	Plugged to Surface	Seven Rivers	Open Hole: Plugged back to Surface Casing: 8 5/8" 28# H-40 set @ 1525 with 300 sx. cmt. circ. to surface. 5½" 14# J-55 set @ 3395' with 600 sx. cmt. circ. to surface. Plugged with 1665 sx cement.

Well Name, Number Operator	Location, Unit Ltr. Sec., Twp., Range	Type	Date Spudded	Date Completed	Depth TD	Depth PBTD	Zone(s)	Record of Completion: Perf(s) and Well Construction
Shaffey-Fed. ARC #1 Operator: Arco	660 FNL & 1980 FWL, Unit C Sec. 14. T20S, R33E, NMPM	Gas Producer (Dual) (Morrow currently shut-in, Bone Springs producing)	4-30-62	12-6-62 (BS) 12-31-62 (M)	14948	13800	Bone Springs, Morrow	**Perfs:** Morrow 13294-302, 13309-317, 13423-429, 13526-528, 13532-543, Bone Springs 9408-14, 9416-18, 9422-24, 9430-34, 9442-50, 9454-57, **Casing:** 20" @ 1400' w/1900 sxs 13 3/8" @ 3100' w/3500 sxs 9 5/8" @ 9000' w/2620 sxs 7" @ 13813' w/1350 sxs Rotary Tool Drilled
Texas Yates Unit WSW #1 Operator: Anadarko Production Company	1330 FNL & 1330 FWL, Unit F, Sec. 14, T20S, R33E, NMPM	Active Water Supply Well	3-31-81	8-31-81	3830		Seven Rivers Reef	**Casing:** 10 3/4" 40.5# ST & C, R-3 J-55 set @ 1260'. Cmted w/825 sx, circ 200 sx to pit. 7 5/8" 26.4# N-80 set @ 3100'. Cmted w/690 sx cmt. circ 200 sx to pit 5½" 15.5# K-55 ST & C Liner set @ 3830 w/top @ 2690'. Cmt w/150 sx circ 20 sx. **Perfs:** 3660-63, 3674-81, 3696-3700, 3708-11, 3724-27, 3746-49, 3758-62. Rotary Tool Drilled **Contractor:** Warton Drlg. Co.

TEAS YATES UNIT
PROPOSED INJECTION WELL 13-2

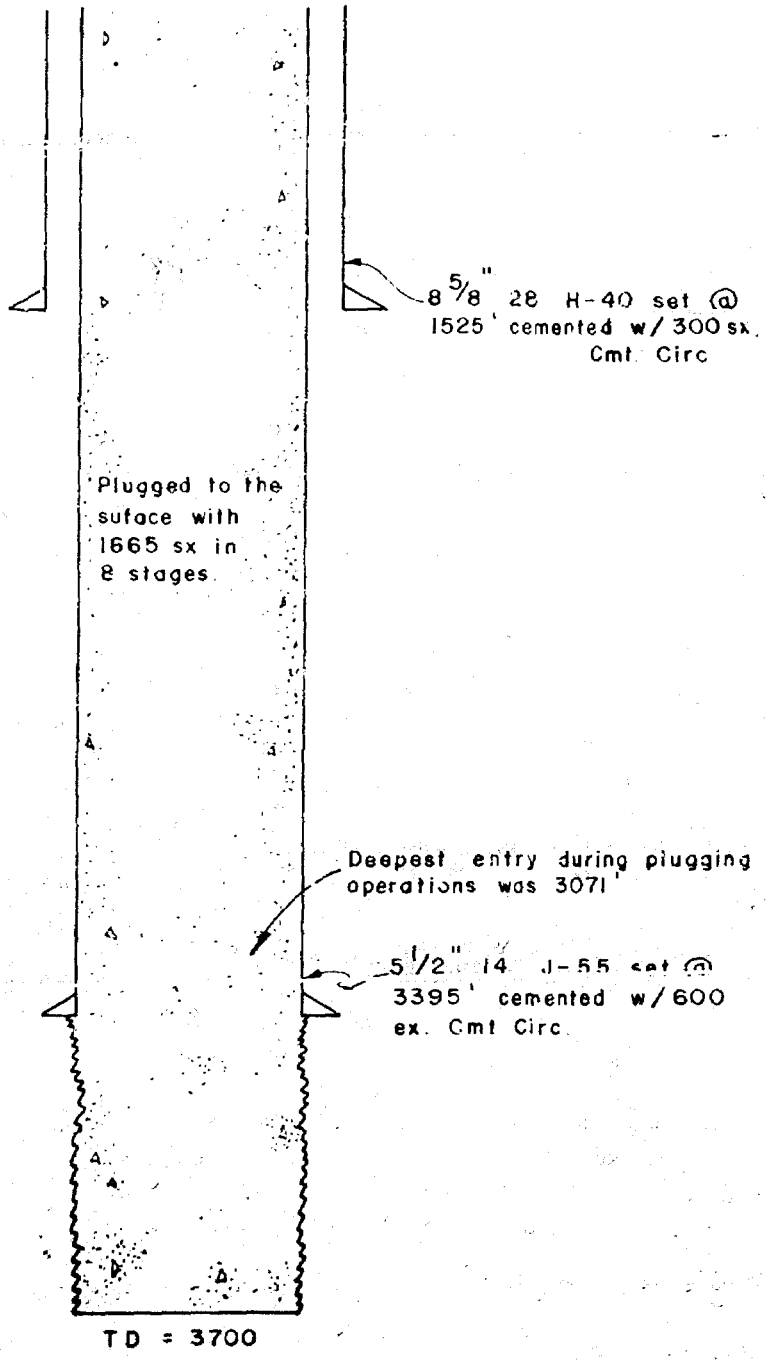


TEAS YATES UNIT 13-1
P & A 10-8-81



TEAS YATES UNIT 14-1

P & A 5-27-81



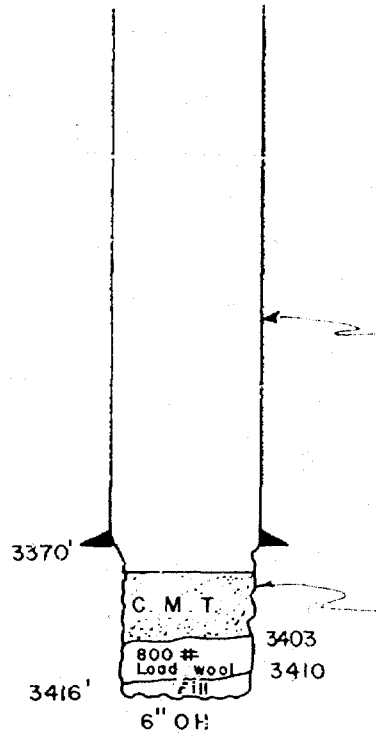
P&A: Dec. ,1958
Re-entered 11-16-81

Well Name & Number:

Teas Yates Unit 5-4 (APC)

Location:

2310' FNL, 990' FWL, Unit E
Sec. 14, T 20S R 33E



TOC:

Cement Circulated

7" csg

Csg:

7" csg @ 3370' cmtd w/450 sxs @ shoe Circ. 30 sx

Cleaned Out To 3389'
On 11-16-81

TD: 3416'

Perfs:

None

BASE

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7677

Order No. R-7084

APPLICATION OF ANADARKO PRODUCTION
COMPANY FOR A WATERFLOOD EXPANSION,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on September 15, 1982, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of September, 1982, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Anadarko Production Company, seeks authority to ~~institute a~~ expand its Teas Yates waterflood project on its Teas Yates Unit, ~~Lease~~ Teas Yates - Seven Rivers ~~Pool~~ Pool, Lea County, New Mexico, by converting two wells located in Unit F of Sections 13 and 14, Township 27 South, Range 33 East, NMPM, to water injection and drilling three new injection wells at unorthodox locations in Units M of Section 11 and Unit L of Section 13, Township 20 South, Range 33 East, and Unit E of Section 18, Township 20 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project expansion should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells, and provided further, that prior to injection of water into proposed injection wells ~~No.~~ Tract 2 No. 1 and ~~No.~~ 8 No. 4, applicant shall take such steps as may be deemed necessary by the Supervisor of the ~~Hobbs~~ District Office of the Division to ensure the integrity of the casing, cementing and plugging of ~~Unit~~ Teas Yates Unit ~~Well~~ No. 8 No. 1 (the old Spartan Federal 1-13) located in Unit E of Section 13, Township 20 South, Range 33 East, NMPM.

(6) That the injection wells or injection pressurization system should be so equipped as to limit injection pressure at the wellhead to no more than 1150 psi, but the Division Director should have authority to ~~increase~~ said pressure limitation, ~~should~~ circumstances warrant.

(7) That the subject application should be approved and the project should be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Anadarko Production Company, is hereby authorized to expand its Teas Yates a Waterflood Project on its Teas Yates ~~Lease~~ Unit, Teas Yates-Seven Rivers Pool, Lea County, New Mexico, by the injection of water into the Yates formation through the following described wells:

Old wells to be converted.

Unit Tract No	Well No	
5	3	~~Unit Well No. 5~~, ~~Location~~ 1980' FNL and 1650' FWL, Section 14;
2	1	~~Unit Well No. 2~~, 1980' FNL and 1980' FWL, Section 13;

Both in Township 20 South, Range 33 East, NMPM.

New injection wells at unorthodox locations

Unit Tract No	Well No	
8	4	~~Unit Well No. 8~~, ~~Location~~ 2250' FSL and 975' FWL, Section 13;
13	2	~~Unit Well No. 13~~, 10' FSL and 660' FWL, Section 11;

Both in Township 20 South, Range 33 East, NMPM.

1	2	~~Unit Well No. 1~~, 1980' FNL and 10' FWL, Section 18, Township 20 South, Range 34 East, NMPM

(3) That injection into each of said wells shall be through internally coated tubing, set in a packer which shall be located as near as practicable to the uppermost perforation; that the casing-tubing annulus of each injection well shall be loaded with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(4) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from around any producing well, or the leakage of water or oil from any plugged and abandoned well

(2) That prior to injection of water in Unit Wells Tract No. 2 No. 1 and Tract 8 No. 4 as described above, applicant shall take such steps and action as may be deemed necessary by the Supervisor of the Hobbs District Office of the Division to ensure the integrity of the casing and cementing, as well as the subsequent plugging of Unit Well Tract 8 No. 1, located in Unit E of Section 13, Township 20 South, Range 33 East, NMPM.

within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(5) That the injection wells herein authorized and/or the injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 1150 psi, provided however, the Division Director may authorize a higher surface injection pressure upon satisfactory showing that such pressure will not result in fracturing of the confining strata.

(6) That the subject waterflood project is hereby designated the _____ - Waterflood Project and shall be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(7) That monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.

(8) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,